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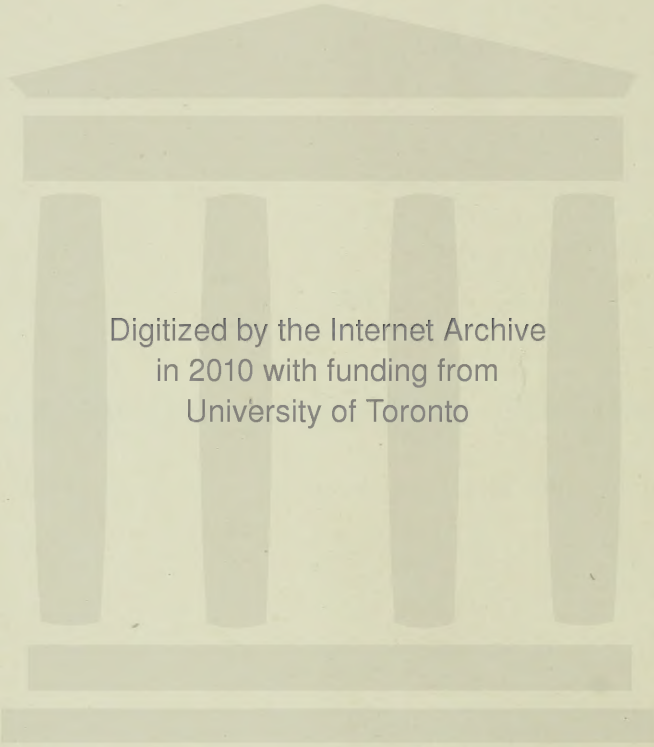
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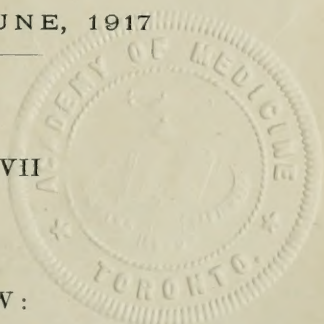
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ORIGINAL ARTICLES.

RESIDUAL URINE IN THE SENILE BLADDER, WITH
SPECIAL REFERENCE TO THE CONDUCT OF THE
CASE SO AS TO POSTPONE OR AVOID THE USE
OF THE CATHETER.

By DAVID NEWMAN, M.D.

IN the senile bladder insufficiency, without (a) or with (b) hypertrophy of the prostate, the presence of residual urine is the fact of primary importance, and to it almost all the other symptoms and dangers of the ailment are due.

(a) *Without hypertrophy of the prostate.*

Much attention has been directed to prostatic hypertrophy as an important factor in the causation of urinary trouble in old men, to the neglect of other lesions which produce clinically very similar results, although on digital examination the prostate will be found to be small, and no intravesical enlargement of the lobes can be discovered on cystoscopic examination—*prostatisme sans prostate.*

No. 1.

A

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The clinical picture may be exactly the same as in cases of enlarged prostate, and, before the systematic employment of the cystoscope in diagnosis, prior to operation, the surgeon was liable to be misled, and on opening the bladder failed to find the condition he was looking for. In place of an enlarged prostate he found a small sclerotic gland with a firm band across the neck of the bladder, which was difficult to remove—the *valvules du col de la vessie* of Mercier (1836), but which is now better recognised as *prostatisme sans prostate* of Guyon.

G. J. Guthrie, F.R.S., a surgeon of Westminster Hospital, who was the first surgeon in England to use a lithotrite for the crushing of stone, and who gave gratuitous clinical lectures to the medical officers of the Royal Navy, the Army, and the East India Company, was the first surgeon to describe this condition fully, and to suggest a remedy (1830).

In a monograph,¹ which is the substance of a series of lectures delivered at the Royal College of Surgeons in 1830, he says (Lecture XV, p. 255), with regard to a chronic thickening of the neck of the bladder which was presumed to depend upon an enlargement of the middle lobe of the prostate gland, "It is, however, quite conclusive that no such disease existed, and that a peculiar affection of the neck of the bladder, and which I have supposed to be situated principally in its elastic structure, gave rise to all the symptoms, and ultimately to the death of the individual." . . . "This disease may commence at an early period of life, and can then be kept at bay by the periodical introduction of the catheter, but as long as this source of disease remains, the patient is never safe. It slumbers on like a smothered fire, ready at some future time, when the patient is more advanced in life, or on the application of an additional exciting cause, to burst forth with renewed vigour, and to lead to his destruction by the production of disease in the neighbouring parts. Fortunately it is, like the chronic enlargement of the prostate, more commonly the disease of an advanced period of life, and is usually as insidious in its commencement and progress. The patient is aware of there being something the matter with him, but he knows not what; he finds he has a more frequent desire to make water than formerly, particularly at night; that it does not flow so readily nor so freely as it had usually done; and that he is most free

from irritation whilst his mind is particularly occupied, and, especially after dinner, when he can often refrain from attempting to make water for four or five hours." . . . "At this period the elasticity of the neck of the bladder is impaired, it will not dilate with the ordinary action of the detrusor muscle, and this is therefore augmented. A sensibly-increased delay is experienced before the water begins to flow, and the patient is conscious of the augmented effort made by the bladder; in other words, he is obliged to strain to expel it. The desire in which this originates soon amounts to uneasiness, and rapidly afterwards to pain, relieved on evacuating a little water, but too soon, alas! to return; for the bladder is now never completely emptied, and the urine which remains is a source of great irritation, although the quantity is really inconsiderable. I have considered the disease as being hitherto confined to the very neck of the bladder, and yet it is hardly possible to account for all the symptoms, without supposing the whole of the elastic and muscular structures entering into the composition of the triangular space immediately behind the orifice of the bladder to be in some degree affected, as well as the mucous membrane which covers it. These structures do not perform their functions effectively of expelling the last drops of water, whilst the under part of the orifice, by its greater firmness and loss of elasticity, presents the commencement of a bar or dam over which the last quantity of urine is not projected, when the fundus of the bladder ceases to act; for I am not satisfied that the muscular coats of the bladder contract so as to completely, although temporarily, obliterate its cavity."

He believed that this membranous bar formed at the neck of the bladder often had been mistaken for enlarged prostate, although there was no projection of the middle lobe into the bladder, but only a valve-like band or process at the very orifice. Guthrie's description is very clear and accurate, but it failed to attract the attention it deserved, and the credit of describing the condition was given to other and later writers. The subject gave rise to much discussion between Mercier and Civiale, and the controversy became very acute, so that in France at least the pathology and treatment of *prostatisme sans prostate* became well known, while Guthrie's earlier work

was overlooked both in this country and abroad. In this country the whole subject was neglected except by Thompson (1886), who called attention to it, and now, even in special text-books on urology, the distinction drawn by Guthrie between enlargement of the middle lobe of the prostate and the median bar formation is not so fully recognised as it should be, especially in view of active surgical treatment.

(b) With hypertrophy of the prostate.

This includes the great majority of cases in which residual urine collects, and may be associated clinically with two very different conditions of the bladder. Two typical pathological pictures present themselves according as the bladder remains sterile or becomes infected at an early stage of the disease. In the first, we may have what I may call "the quiet bladder:" in the other, "the irritable bladder."

It is not within the scope of this article to discuss the pathology of various enlargements of the prostate commonly leading to obstruction and the collection of residual urine, but it is necessary for the proper understanding of the subject to make a few remarks regarding the physiology of micturition and the way in which the bladder contracts while emptying itself.

The accepted physiology is that when distension of the viscus occurs the mucous membrane becoming stretched, the sensory nerve fibres are stimulated, and through the centre in the cord an impulse is conveyed to the sensorium. On perception of this stimulus, a double impulse is emitted from the brain to the cord—one to stimulate contraction of the muscular fibres of the bladder wall, the other to inhibit the internal sphincter centre, and thereby induce relaxation of the neck of the bladder: the internal orifice dilates, the neck of the bladder becomes funnel-shaped, the external sphincter relaxes, and by the entrance of urine into the membranous urethra the act of micturition is begun. Normal micturition is partly voluntary and partly involuntary. In health it appears simply to be a relaxation of the sphincter permitting the urine to escape, not a conscious muscular effort. As a matter of fact, when the flow is started it continues without any perceptible effort, and a sensation of relief is experienced as soon as the water begins to pass.

As to the way the bladder wall contracts, I cannot accept the generally entertained view that the muscular fibres springing from the base of the prostate contract on a vertical axis passing through the neck of the bladder, so that the contraction can completely obliterate the cavity, all the walls meeting together in the middle line. By accepting this view, if the bladder is not completely emptied the remaining 3 or 4 oz. must be in a more or less erect vertical column: and it is supposed that when the viscus is completely empty the walls fall together, so that on section the mucous surface presents a T shape, the lower point of the perpendicular limb corresponding with the vesical orifice.

By repeated observations with an evacuating cystoscope, I have been able to watch the contraction of the bladder while its contents were slowly escaping. In the normal bladder the mucous membrane covering the lower posterior wall was first seen to be thrown into folds, gradually the waves of contraction spread upwards and forwards, at the same time the floor was elevated and thrown forward, and the lateral walls approached one another. The anterior wall was the last to contract.

The position and relationships of the normal bladder of a man of 50 years of age distended to 12 oz. are shown in Fig. 1 (p. 6). Various degrees of contraction are shown diagrammatically in Fig. 2 (p. 7), from 12 oz. down to 3 oz.—namely, 12 oz., 9 oz., 7 oz., 5 oz., and 3 oz. It will be seen that the posterior wall is thrown forward, and while the roof or superior wall falls downwards and forwards, the anterior and inferior—that is to say, the segment of the sphere above and behind the pubes—contracts less rapidly, and only when the bladder is nearly empty.

Now, let us see what this has to do with residual urine in enlarged prostate and Guthrie's median bar. Slight enlargement of the prostatic gland is shown in Fig. 3 (p. 8), and in Fig. 4 (p. 9) the median band. The lines are the same as in Fig. 2 (p. 7). The contractions of 9 oz., 7 oz., 5 oz., and 3 oz. are indicated, and it is shown that when contraction is at 3 oz. the outlet of the bladder is closed by the projection of the middle lobe of the prostate or the tongue-like process of the bar against the anterior wall immediately above the neck.

The proper understanding of the progress of a contracting

bladder has a very close and important bearing upon the treatment of residual urine in the quiet bladder. Mr. E. Hurry Fenwick,² writing on the subject of the dilated bladder without hypertrophy of the prostate, says, "It is merely a toneless insensitive reservoir, needing only periodical emptying and occasionally cleaning to keep its possessor in comparative comfort. Happy the patient who owns a bladder like this, and who has safely crossed the bridge of catheter life."

The question in such cases is, How can we conduct a case so

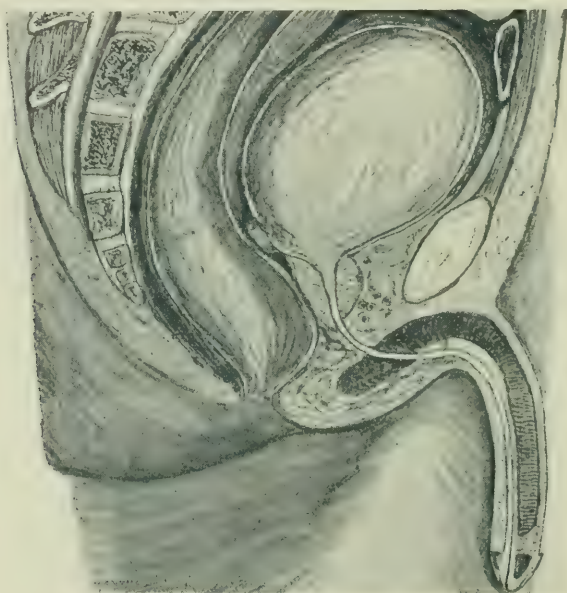


FIG. 1.

as to postpone or altogether avoid the use of the catheter. In considering this important question I may quote, in the first instance, a case of slight enlargement of the middle lobe, which was full of interest to me at the time the patient asked my help.

He was a robust, active doctor, a little over 65 years of age, when he first consulted me on account of trouble he had in emptying his bladder. He asked me to discuss with him the question of the use of a catheter to avert the tendency to

increase in the residual urine. He disliked the idea of beginning catheter life as he had a large experience of its use, and said that in his practice of men approaching 60 years of age fully 5 per cent sought his advice on account of residual urine. He had a thorough knowledge of the advantages of catheterism as well as of its inconveniences and risks.

I found the gland slightly enlarged, but the hypertrophy was limited almost entirely to the middle lobe, the mucous membrane of the bladder slightly anæmic, the urine was acid, its specific gravity 1012, and it contained nothing abnormal.

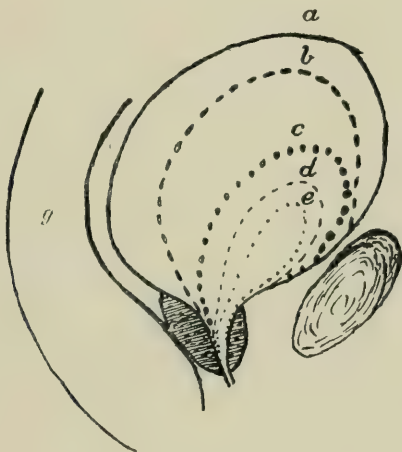


FIG. 2.

NORMAL BLADDER.

a, Bladder distended to 12 oz.; *b*, contracted to 9 oz.; *c*, contracted to 7 oz.; *d*, contracted to 5 oz.; *e*, contracted to 3 oz.; *g*, rectum.

The capacity was large; on occasions he passed as much as 20 oz., and when distended even to that degree he did not complain of much inconvenience.

One of the first questions he asked me was, "The enlargement, you say, in my case is very slight, whereas in many cases I have seen, great enlargement has been found without any residual urine. What are the causes of residual urine, and why is it so much greater in one case than another?"—questions at the time not easily answered to his or to my own satisfaction. We were fully conversant with the

explanations generally accepted to account for the usual clinical phenomena, the increased frequency, the difficulty in starting, the intermittent micturition, the dribbling, the inability completely to empty the bladder, the incontinence, and the pain. No doubt many of the reasons offered are adequate, but the physical bases varies so greatly that not one but many factors must be taken into account.

Take the instance I have quoted as an example. Under my observation for ten years he passed through most of the phases of the complaint. The whole history was most interesting

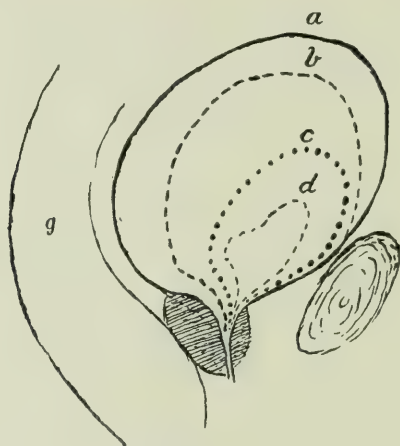


FIG. 3.

BLADDER WITH ENLARGED PROSTATE.

a, bladder distended to 12 oz.; *b*, contracted to 9 oz.; *c*, contracted to 7 oz.; *d*, contracted to 5 oz.; *g*, rectum.

and instructive, and its value as a clinical study was much enhanced by the circumstance that the patient took a keen self-interest in all the points which presented themselves for our consideration, and often strongly held to his own views. We were therefore led to think out the question in every detail.

In his case the first indication of trouble was that he had to micturate more frequently in the early morning before rising time, and several times while dressing. After breakfast he had little trouble, no pain was complained of, and no

abnormal constituents were found in the urine. I asked him to pass water, so that I might see the character of the stream and the attitude. This I observed in a mirror without his knowledge. He stooped well forwards, and used the abdominal muscles moderately. The stream was quite a good size, and the urine escaped with some force, stopped suddenly, but after what appeared to be the end of the act a few drops dribbled away. A few minutes later I passed a soft rubber catheter and drew off 4 oz. of urine.

With a syphon having a fall of 14 inches the bladder could

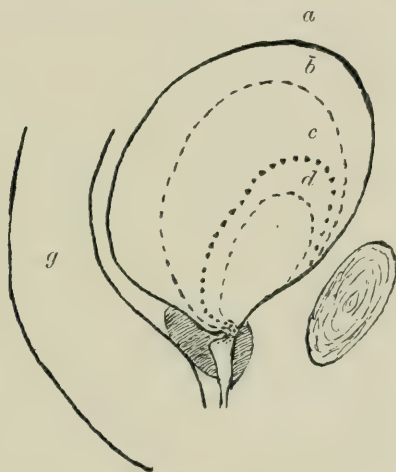


FIG. 4.

BLADDER WITH GUTHRIE'S BAR AND URETHRA DISTENDED BEYOND.

a, distended to 12 oz.; *b*, contracted to 9 oz.; *c*, contracted to 7 oz.;
d, contracted to 5 oz.; *g*, rectum.

be distended to 20 oz., and when the fall was reduced to 5 inches he was able to expel 18 oz. without consciously employing the abdominal muscles, thus showing that the muscular tone of the bladder was good. The remaining 2 oz. came away when the syphon pressure was withdrawn, by the filler being brought to the level of the floor of the bladder.

He had a strong objection to the systematic use of the catheter, therefore I made a suggestion which he promised to carry out regularly. From experience of a number of similar cases—cases of the quiet bladder—I had found that

if the patient passed urine without pressing and waited, say, for five minutes and tried again, he would succeed in getting rid of the residuum.

In describing the phenomena of bladder contractions during micturition in enlarged prostate and bar obstruction, I showed the various phases of the process (Figs. 3 and 4, pp. 8, 9). The outlet of the bladder is closed before the viscus is empty, and a quantity of residual urine is left. This is the condition while active contraction is going on, but if it is arrested the bladder settles down, as it were, and assumes a spherical form. When a few minutes later a second attempt is made to micturate, the contraction again passes through all the phases described above, and before the neck of the bladder is again plugged almost all the residual urine has escaped; if not, a third attempt may be necessary. The larger the quantity of urine originally in the bladder the greater will be the residuum, and the oftener will the patient be required to exert himself to get rid of it. I therefore advised my patient, after he had passed water, to wait for five minutes and try again, and, if necessary, a third time, and to do this regularly night and morning.

In health micturition appears simply to be a relaxation of the sphincter permitting urine to escape, and as soon as the act begins a sensation of relief is experienced. The man with an enlarged prostate and over-distended bladder has the same relief and comfort. Why, then, should he exert himself? As a matter of fact he does not. He is satisfied when he has got rid of the discomfort of the moment, and stops short of emptying his bladder, with the consequence that to leave his bladder unemptied becomes a habit. Advanced in years, his muscular tone is not so good as it was, and consequently the bladder does not contract so powerfully as formerly. Moreover, he has to pass water more frequently, and often from impatience, apathy, or disinclination to exertion he is quite satisfied to stop short of complete evacuation, although he knows that all the sooner he will be called upon again. He is relieved for the time being, and wants to get into his comfortable bed; but every time he fails completely to empty his bladder he is encouraging what he wants to avoid—an increase in the residual urine. This neglect in the early stage of enlarged

prostate is an important factor added to the obstruction. Consequently, one of the first elements in treatment is to break off this habit as early as possible, and to establish the regular practice of emptying the bladder at least twice in twenty-four hours. This must not be done by straining the abdominal muscles; such efforts only make micturition more difficult. By getting rid of the bad habit of not emptying the bladder the muscular contraction is improved, the residual urine is diminished, and the almost inevitable catheter is postponed.

What I told my old medical friend to do was to pass urine without pressing, wait for five minutes and try again, wait for other five minutes and try a third time. This was done every night and morning, and when six weeks later I again used a catheter only 1 oz. of urine was drawn off in place of 4 oz. previously. He said that he passed water in a fuller stream, and the quantity that came away with the second attempt was steadily becoming less.

What has been said up to the present applies only to the early stage of the disease. Gradually other symptoms develop. The patient finds that his water is not passed so freely as hitherto, there is hesitation in starting, the stream is small and feeble, and may be suddenly arrested. There is no pain or hæmaturia, and the urine is clear. The symptoms now developing indicate progressive failure in the muscular power of the bladder as well as increased obstruction in the prostatic portion of the urethra.

The most characteristic symptom of increasing obstruction and its consequences is nocturnal micturition, but the development of this trouble depends upon other important factors. If the urine is strictly sterile—and this can be determined only by a bacteriological examination—frequency is not a prominent symptom.

Irritation and frequency set in when infection occurs, and this may happen at any time. The most common is a mild bacillus coli infection. At first little change may be observed in the symptoms; gradually the bladder becomes more irritable, especially at night. The quantity of urine passed between 11 o'clock P.M. and 7 o'clock A.M. may be greater than what is excreted during the remainder of the twenty-four hours.

Two facts we have to explain, increased irritability during the night and polyuria. During the day when the mind is occupied and the patient is in the erect posture the amount of urine excreted is smaller and the frequency is less than during the hours when the mind is unoccupied and the recumbent position is adopted. An expected demand to pass water has a distinct influence, not only by stimulating the secretion of urine, but also by regulating the capacity of the bladder to retain it. A man goes to a meeting or enters a train where he knows he cannot relieve himself for an hour or two; at once he finds his bladder full, and a demand is made for relief. In the same way, when he wonders how he is going to pass the night, polyuria is induced.

In old-standing cases of obstruction other factors come into play. The backward fluid pressure induces dilatation of the ureters and the pelves, and very probably a certain degree of interstitial nephritis. During the day, while the patient is moving about, the hydronephrosed kidneys are liable to be displaced downwards, and the elongated ureters are twisted and valved, so that the escape of urine to the bladder is not free. The increased fluid pressure in the renal pelves retards the excretion during the day, but when the patient goes to bed the falling back of the kidneys into the normal position stretches out the ureters, and the pressure being relieved the secretion of urine is freed.

The obstruction is not directly related to the size of the prostate; a small degree of enlargement may produce severe symptoms, while a very large prostate may cause little trouble. It is the situation of the growth that influences the results. Prostatic hypertrophy of the lateral lobes may exist for years, may attain great size causing twisting of the urethra in all directions, and still urination is little interfered with, and no serious changes are produced in the bladder or in the kidneys. On the other hand, if the proximal end of the middle lobe be but slightly enlarged so as to form a small tongue-like projection, it may easily block the internal orifice of the urethra. This leads often to difficulty in diagnosis. A catheter passes with ease, and on rectal examination no enlargement may be discovered: on inspection with the cystoscope, however, a bar at the neck of the bladder, an acute cone, or a distinct

nipple-like projection, soft and flaccid, may be seen occupying the middle line. These intravesical growths are the most effective causes of urinary trouble; they act as valves.

In general enlargement of the gland, as the swelling increases in size the urethra becomes distorted, the obstruction becomes steadily worse, the intravesical pressure increases, and at the same time the muscular elements of the bladder and the urethra atrophy, so that ultimately the prostatic urethra becomes inactive. The consequence of this degenerative change is that the co-ordinating muscular wave from the bladder along the urethra is broken, and complete emptying of the urethra is interfered with, hence the "dribbling" so frequently met with in old men.

The third stage, final occlusion of the canal, may be brought about in various ways, some sudden complication may arise—the patient contracts a cystitis from some infection of the bladder, and finds that he is no longer able to pass water spontaneously; he has an acute disease such as influenza or pneumonia; he meets with some slight accident, a fall perhaps, or circumstances require him to retain his urine longer than usual, and as a consequence of any of these conditions some congestion of the mucous membrane of the bladder is induced, and on examination the prostate may be found to have become softened and swollen. This is enough to close the already narrowed and distorted passage, and the enfeebled bladder is too weak to overcome the obstruction.

The secondary changes in the urinary tract, which require only to be mentioned, are primarily due to mechanical influences, nature's efforts to overcome the obstruction offered to the escape of urine. According as the bladder remains sterile for a long period from the onset of the obstruction, or becomes infected at an early stage, we may have two typical pathological pictures presented. When the former condition obtains we have what may be called the "quiet bladder," with the latter the "irritable bladder."

In the "quiet bladder" the viscus becomes gradually increased in capacity, its walls become thinned, the muscular elements atrophy, the mucous membrane gradually becomes paler, and the blood-vessels smaller.

With the "quiet bladder" two courses may be followed. The bladder may remain free from irritation until incontinence develops from overflow, or retention sets in, or at any stage in the development of the disease the bladder contents may become infected. If this occurs late in the history of the case, we have to deal with a totally different condition from what we find in the "irritable bladder," namely, the bladder which has been infected from the beginning. Consequently we find that much confusion is apt to arise both from a clinical and a pathological standpoint as regards the sequence of events.

In these "quiet bladders" the walls are thin, the muscular elements are atrophied, there is habitual over-distension, up to a point they cause little trouble, and the operating surgeon meets with such cases only in the final stage, when the bladder is over-distended and no longer able to contract. There is involuntary micturition from over-distension. True incontinence from paralysis of the sphincters is very rare. The constant passage of small quantities of urine leads the patient to suppose that his bladder is being emptied, and this belief is encouraged by the circumstance that there is little pain or discomfort. In many cases the urine simply dribbles, no muscular contraction being involved in the act. That the daily urine is good in quantity, perhaps even above the average, is apt to be accepted as a sufficient warranty that there is no retention. A catheter is not passed, and no physical examination is made. The urine is coming away abundantly, water is made frequently, too often indeed, and the patient seeks for treatment which will enable him to retain his urine. Why then draw it off by catheter? When such a proposal is made the patient often objects.

The "irritable bladder" is generally a contracted bladder. When infection occurs early the bladder wall becomes thickened from inflammatory induration and hypertrophy of the muscular fibres. These produce well-marked ridges, while the weakened parts between yielding to the increased intravesical tension form pouches or saccules. The mucous membrane is deeply congested, thickened, and spongy; the bladder is small, rigid, and irritable; constant demands are made to urinate; and there is very little residual urine, only a few ounces, unless the bladder is sacculated.

The early infected bladder is never a large one. On the other hand, the bladder that remains long sterile is an over-distended bladder with thin walls. Between these two extreme types we have many intermediate cases. For example, where the viscus has been primarily dilated with thin walls and it becomes infected. A mild and chronic cystitis is established, induration of the walls follows, the muscular bundles become thickened without any true hypertrophy of the muscular elements. The unsupported spaces between the bundles yield to the pressure, and the softened mucous membrane is gradually pressed outwards and forms small pouches. These are found mostly on the posterior wall above the trigone, often close to the ureter orifices, and the openings may be so small that they are liable to be mistaken for dilated ureters. These saccules may retain several ounces of urine and be occupied by calculi. Again, stagnant urine may rest in them for days, and give rise to intermittent toxic poisoning as shown by rigors, elevation of temperature, and other general constitutional disturbance. These symptoms pass off when the contents of the saccule escape. Such cases are by no means uncommon, but the circumstance that the cause of the toxæmia is not suspected leads to errors in diagnosis and treatment.

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- ¹ *On the Anatomy and Diseases of the Neck of the Bladder and of the Urethra* (London : Burgess & Hill), 1834.
- ² Fenwick, *Cardinal Symptoms of Urinary Disease*, p. 171 (London : J. & A. Churchill).

(To be continued.)

POINTS IN THE OPERATIVE TREATMENT OF HARE-LIP AND CLEFT PALATE.

By JAMES H. NICOLL, M.B., F.R.F.P.S.G.

IN the operative treatment of a common class of deformities, the various degrees and varieties of hare-lip and cleft palate, there are certain practical points on which opinion has undergone radical changes of late years. In the course of a demonstration given to the British Dental Association at its meeting in Glasgow in 1912, I had occasion to express certain views which differ widely from the teaching of my student days, and which in turn I found differed equally widely on certain points from those held by members of the dental profession, who, seeing the "end-results" of the surgeon's efforts, have special opportunities of judging, in cases in which mechanical aids have ultimately to be resorted to, which of the various operative methods are faulty, and, in cases in which ordinary dental work brings the "cured" hare-lip or cleft palate mouth under review, which methods are good. An operating experience extending over some hundreds of cases, while leaving my opinion fluid on certain points, has crystallised it, for what it may be worth, on certain others. The latter may be briefly referred to.

The date of operation.—This should be as early as possible. In cases of simple hare-lip, operation may be advantageously done within the first few days of life, and there is no advantage to be gained by waiting beyond the date at which the umbilicus is healed. In cases of alveolar hare-lip, the first stage of the operation (that concerned with the cutting and wiring in position of the tilted or the projecting intermaxillary bone) should be undertaken similarly early, and the second stage (that concerned with the soft tissues of the lip) whenever the union of the alveolus is complete. In cases of cleft palate, also, the earlier operation is performed the better. Where hare-lip

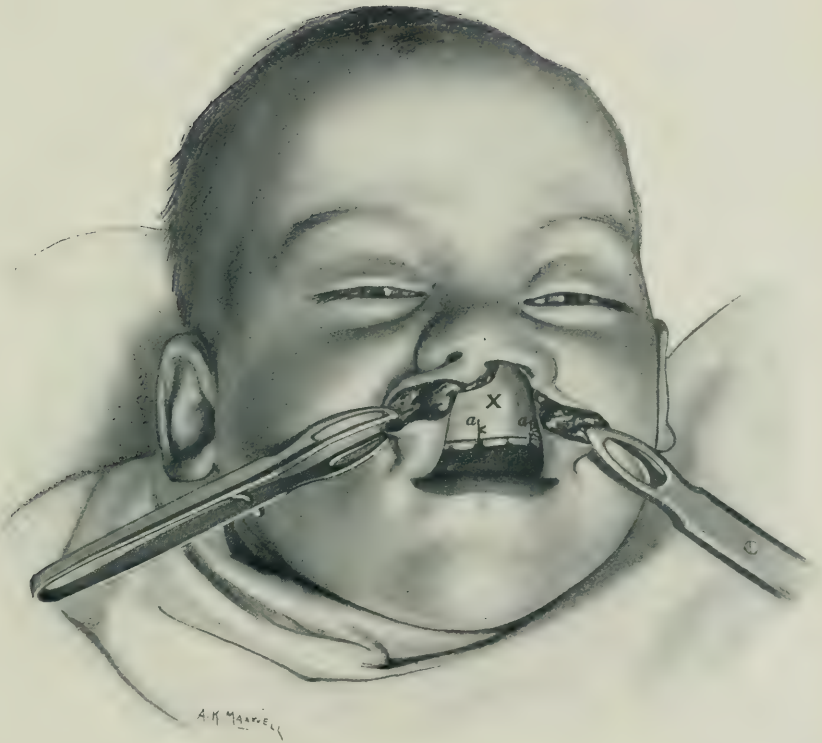


FIG. 1.

TIN-FOIL PLATING IN HARE-LIP OPERATIONS.

The lip has been pared, and lip, ala, and cheek freed; and the parts are ready for suture. A plate of tin foil (X) moulded to the bone has been fixed by two silkworm sutures, *a* and *a*¹, which perforate tin plate and alveolar process.

(N. B.—The coronaries are temporarily controlled by the artery forceps. Pressure forceps and ligatures are rarely, if ever, necessary in hare-lip operations.)



FIG. 2.

TIN-FOIL PLATING IN HARE-LIP OPERATIONS.

Operation completed. The dotted line indicates the position of the plate (which is left for four to eight weeks), and bounds an area larger than the mucous membrane-lined recess left after removal of the plate. A certain amount of reduction by contraction necessarily occurs.



FIG. 3.

NOSTRIL MOULDING IN HARE-LIP OPERATIONS.

Flat nostril, with long diameter transverse.



FIG. 4.

NOSTRIL MOULDING IN HARE-LIP OPERATIONS.

Nasal splint fixed in position by silkworm suture passed through septum and tied in other nostril (knot shown).

In this case a round splint has been used (to match the normal nostril). More often an oval splint is employed, fixed with its long diameter antero-posterior.

The splint is worn for one to three months.

and cleft palate occur together, the hare-lip should be treated before the palate. The great source of failure in cleft palate operations is the lack of blood-supply in the pared and opposed margins of the flaps. Union of the hare-lip, and particularly of the *alveolar* hare-lip, very materially increases the blood-supply of the palate.

Over-tilting of the intermaxillary in alveolar cases.—In unilateral alveolar hare-lip the chief difficulty is to obviate the persistence of the flattened-out nostril. The temptation is to extensively undercut and “free” the ala and cheek. This procedure gives a good primary result, which is, however, soon largely destroyed by the subsequent contraction of the raw surface created, with the inevitable pulling outwards of the ala and flattening afresh of the nostril. A much better ultimate result is obtained if the flattening of the nostril is corrected in large degree by so cutting and wiring the intermaxillary that the tip of the nose and the nasal septum are distinctly distorted to the deformed side. In this way the flat nostril is closed, partly by displacing its inner (mesial) wall, and partly by displacing the outer (alar) wall. Much less under-freeing is necessary, and much less subsequent scar distortion occurs.

Tin-foil plating.—In cases in which considerable under-freeing of ala, lip, and cheek is necessary, the subsequent contraction of the raw surface and its adhesion to the underlying bone tend to reproduce the flattening of the nostril and to render the lip immobile, board-like, and distorted during facial movements. These ill results may be avoided by the insertion of tin-foil between the soft parts and the periosteum. The procedure is indicated in Figs. 1 and 2 (drawn for me by Mr. Maxwell from cases under operation). Mucous epithelium lines the raw tissues opposed to the surfaces of the tin-plate, so that these do not adhere on its withdrawal but form part of the buccal cavity.

Median position of prolabial juncture.—The line of union in the prolabium remains, in the majority of cases, more or less obvious—in some a mere line, in others a protrusion, and in

others still, the larger number of the cases, a slight notch. Placed laterally, this is unsightly; placed mesially, it is always less so, and in some cases it is even "rather becoming." Those methods only of paring the flaps which provide for median juncture should be employed (see Figs. 2 and 4).

Nostril moulding (Figs. 3 and 4).—An oval tube worn in the nostril for several months has a remarkable effect in moulding the deformed nostril and preventing secondary flattening. The tube may be a specially made one of any rigid material, or an ordinary vulcanite, celluloid, or metal nasal splint for deflected septum—such as Asch's, Meyer's, or Kyle's—cut across with a fine file at the point of suitable circumference. At the operation for hare-lip the closure of the deformed and flattened nostril is purposely overdone—that is, the aperture is made smaller than that of the normal nostril. After some weeks or months the tube is introduced. If an oval tube is necessary (and the choice of shape, round or oval, depends on the shape of the normal nostril), it is so placed that the long diameter of its aperture corresponds to that of the normal nostril. The tube is worn for several months.

ACHYLIA GASTRICA: SIMPLE OR BENIGN ACHYLIA.

BY WILLIAM MACLENNAN, M.B.,

Visiting Physician, Western Infirmary, Glasgow; Honorary Consulting Physician,
Glasgow Royal Maternity and Women's Hospital; Examiner in Medicine,
Aberdeen University; late Examiner in Clinical and Systematic
Medicine, Glasgow University, &c.

THIS term has been rather loosely employed by various writers to denote several conditions, the main feature of which is the apparent absence of hydrochloric acid from the gastric secretion. But in its truest sense it should really mean the absence of free hydrochloric acid and the ferments. It would be better if the term "achlorhydria" were universally employed for those conditions in which only the absence of free acid had been determined, and "achylia" retained for all associated with the absence of acid *and* the ferments. It will at once be seen that the distinction between the two conditions has considerable importance clinically from the prognostic and therapeutic points of view. The term "achylia" is, however, a convenient one for those cases in which free hydrochloric acid is absent from the gastric secretion, and, although not scientifically accurate, it may be usefully retained till the pathogenesis of the disorder has been more definitely defined.

We owe the term "achylia" to Einhorn, who employed it to denote the absence or gross diminution of free hydrochloric acid in the gastric secretion. It will usually be found that in most cases the ferments may not be wholly suppressed. It is right, in certain cases where doubt as to the true nature of the condition exists, to examine the gastric filtrate for the presence of rennin-zymogen and pepsinogen. It should be noted that these substances are not necessarily absent because no indication of their presence is obtained from the macroscopic characters of the extracted test meals. Obviously their digestive powers remain latent in the absence of their activator—the hydrochloric acid.

I am convinced that achylia is not sufficiently recognised as a causative factor in many apparently obscure gastro-intestinal derangements. In investigating the gastric chemistry of hundreds of cases to elucidate the cause of certain derangements of the digestive tract, I have been rather struck by the relatively large number in which achylia has been revealed. This at once raises the consideration of the conditions under which achylia may be found.

The *etiological factors* are not by any means uniform.

The term *achylia gastrica nervosa* attempts to express the cause of one common variety in which, apparently, the condition may be regarded as a neurosis of secretion. Probably this is the simplest and most favourable form of the disorder, and, as might be expected, it occurs more frequently in women than in men. It is not, however, necessarily associated with other signs of neurosis or neurasthenia. I have frequently found it in the young and apparently perfectly healthy subject. The nervous origin of many cases is, however, apparently well established. That so great a failure in the gastric secretion may be thus brought about is proof of the important rôle played by psychic and emotional disturbances in gastric disorders. I am certain, from frequent observations, that the condition of achylia is often quite *temporary and evanescent*. For example, the emotional disturbance produced in nervous people from the dread of the "stomach pump" is capable of temporarily suppressing the gastric secretion. In this way wrong conclusions may be drawn from the analysis of the extracted meal. The advantage of giving the test meal without the patient knowing for what purpose it has been administered will thus be obvious.

I have recently seen a number of cases of this type of achylia arising from the grief of bereavement. It is also well known that excessive fatigue may temporarily suppress the secretion of gastric juice.

On the other hand, as has been pointed out by Edkins, a hormone elaborated in the gastric wall acts as an excitant of gastric secretion quite independently of the action of the nervous system. Under what conditions this substance is elaborated and controlled we do not know.

Besides, achylia would appear to be often associated with various conditions in which a neurosis appears to play no part. I have noted that it may be found in many chronic and wasting diseases. In chronic tuberculous affections with amyloid change, cirrhosis of the liver, chronic parenchymatous nephritis, profound anæmias, mucous colitis, and especially in diabetes mellitus, to mention only a few, achylia is not infrequently present.

In *pernicious anæmia* we find the largest incidence of simple achylia. All my hospital cases of pernicious anæmia are examined for this abnormality, and I have never yet noted its absence in this blood disease. Probably it is a very early symptom, and in all cases of primary anæmia in adults the detection of achylia may be regarded as an important diagnostic feature of this grave malady. That the achylia which may be associated with it has no pathogenic influence in the causation of pernicious anæmia may be conclusively inferred from the fact that hydrochloric acid may be absent from the gastric juice for years without anæmia or any other disturbance of health.

Achylia is also commonly the result of well-defined *organic changes in the mucosa* due to chronic gastric diseases. In chronic catarrhal gastritis, from alcoholic excess or other causes, achylia gradually comes on. In all conditions associated with atrophic changes in the mucous membrane, such as the so-called "*phthisis ventriculi*" or in "*sclerosis ventriculi*" the secreting glands are slowly destroyed and a permanent achylia is produced.

The achylia of cancer (malignant achylia) stands in a position by itself and does not come into the scope of this paper. Its features are characteristic and diagnostic.

DIAGNOSIS OF ACHYLIA.

There is no known clinical picture of this condition. Sometimes it is discovered accidentally and at other times as the result of an investigation. Its presence can only be affirmed after chemical examination of the gastric filtrate. When a test breakfast is given for this purpose and extracted in one

hour the *macroscopic appearances* of the returned meal are usually quite informing. The toast of the Ewald's breakfast has undergone no digestion and no solution. Each particle is discrete, and the toast has only the appearance of being macerated. It is not converted, as it should normally be, into a homogeneous liquid resembling peasemeal gruel. In achylia the constituents of the meal are too readily recognised, and there is practically no digestive change.

The impossibility of properly withdrawing a test meal without the aid of an *extractor* will be well demonstrated in most of these cases. The return is very small in most cases of achylia simplex, is thick, and is withdrawn from the stomach with difficulty. This form is sometimes spoken of as *dry achylia*. Indeed, at the end of one hour the meal may have entirely left the viscus. There is no condition in which the stomach may more rapidly empty. These features are due to (1) the patency of the pylorus resulting from the absence of hydrochloric acid, (2) to some extent a more active peristalsis, and (3) to the failure of the gastric secretion to add to the bulk and the fluidity of the meal.

In the simplest type of achylia—achylia nervosa—the returned meal is free from mucus, has no offensive odour, and is usually neutral in reaction to litmus paper. But from time to time the returned meal may be normal, or even excessive in quantity, particularly in those cases associated with gastroparesis and other disorders of motility. In such cases and also in atrophic gastritis mucus is often abundantly mixed with the ill-digested test meal, making the whole a gelatinous mass.

The *filtrate* should be tested with (1) *blue litmus paper*: if an acid reaction be present this point should be noted. (2) *Congo red paper*: in the absence of free hydrochloric acid there will be no blue tint on the congo red paper. If the blue litmus gives a strong acid reaction and the congo red no blue colouration, probably organic acid is present. The *total acidity* should also be estimated. It will probably be found to be very low in simple achylia, and in this respect in striking contrast to the high total acidity of malignant achylia.

Having determined the absence of free hydrochloric acid a

further investigation becomes necessary. In the graver and permanent achylia due to atrophic changes in the mucosa there may be total destruction of the secreting glands. In such cases no hydrochloric acid at all can be secreted. To determine then that none has been secreted, when none is present free, the *combined acid* must be sought for. The Sgœqvist or other test must be employed for this purpose. The importance of this investigation is twofold. The presence or absence of *combined acid* enables us to formulate a correct prognosis. If combined hydrochloric acid be present, clearly some acid is being secreted, and the glands are not wholly inactive or completely destroyed. Under treatment such cases may be expected to improve or recover.

Achylia thus resolve themselves into *total* or *partial*—the former, associated with the total suppression of the secretion of hydrochloric acid, usually permanent and incurable; the latter, with the presence of combined acid, showing some retention of the secreting function of the hydrochloric acid glands, may be regarded as hopeful under appropriate treatment.

SYMPTOMATOLOGY OF ACHYLIA.

The symptomatology of achylia gastrica is very variable. At times it is associated with no aberration from the normal health. Generally speaking, however, the clinical picture may present symptoms of (1) *gastric disorder*, (2) *intestinal disturbance*, or (3) *gastro-intestinal derangement*.

It may at once be said that gastric symptoms are uncommon alone, but that intestinal disturbance of one kind or another prevails. Perhaps the principal reasons for derangements of intestinal digestion are the rapidity with which the non-prepared meal is thrown into the bowel, and the absence of the normal acidity of the chyme. Sometimes after gastro-enterostomy, in cases where the stomach empties with precipitate haste, very similar intestinal symptoms to those found in achylia may, for a time, be present. Thus both the mechanical and chemical abnormality tend to produce disorder in the bowel. The badly dissolved meal and the altered chemical reactions are sufficient to account for the abnormal conditions produced in

the bowel. One has only to recall the potent influence which hydrochloric acid has on the secretions of the duodenum, the bile, and the pancreas to realise the widespread disturbance which may follow its suppression. Its other and not less valuable influence as an antiseptic to the gastro-intestinal tract must always be borne in mind.

Those symptoms which are *gastric* are very vague and do not form clinically a recognisable symptom-complex. But I have dealt with a number of cases in which there was gastric pain coming on shortly after food with considerable flatulent distension with belching of wind, bad or capricious appetite, thirst, and, not infrequently, nausea and vomiting.

Paradoxical as it may seem, in a trouble originating in the stomach, the principal and most common symptoms are due to intestinal disorder. In their order of importance *diarrhœa* stands first. The type is that of the diarrhœa of ingestion. Thus it frequently follows a meal and gives rise to the belief on the part of the patient that his "food is running through him." But not at all uncommonly the diarrhœa appears to have no relationship to the act of eating. It may have all degrees of severity. At times it is rather intractable. The stools are sometimes offensive, and in their bulkiness are out of proportion to the food taken. Macroscopically or microscopically they may be seen to contain remnants of ill-digested food such as meat fibres. Contrary to what one might expect, the diarrhœa of achylia is not so frequently associated with loss of flesh as that from many other causes. Indeed the general nutrition may remain good and no signs of anæmia be present.

In long standing cases of achylia with intestinal disorder *mucous colitis* may supervene. On the other hand, it should be noted that achylia gastrica is not uncommonly an accompaniment of mucous colitis.

Constipation, although less common than diarrhœa, is not an infrequent symptom. It is more difficult of explanation, but probably arises from a failure of proper motor innervation. As might be expected, diarrhœa and constipation may alternate.

Flatulence, both gastric and intestinal, may be a prominent complaint. All the usual subjective symptoms of gaseous

distension, such as vertigo, palpitation, and colic may be present.

The *urine* in most cases of simple achylia shows no special variations from the normal. It may contain traces of *acetone* and show an excess of *indican*, but these substances are not found so commonly nor in anything like the same amount as they are in malignant achylia.

In middle-aged and elderly people achylia should be regarded, when occurring for the first time, and even when it has none of the characters of the malignant type, with some suspicion. I have now had a considerable number of such cases under observation, and in a number of these, sooner or later, malignant disease has been definitely determined.

TREATMENT OF ACHYLIA.

It will be understood that the exact treatment which is to be adopted will depend on the possible cause of the condition. In all cases which can be classified as *achylia gastrica nervosa*, and all those in which the achylia is partial, a good result may be expected. Its application should be directed to (1) the improvement of the general condition, and (2) to the restoration of the normal gastric secretion.

1. *General*.—Any obvious adverse hygienic condition should be removed. Fresh air, gentle exercise, avoidance of fatigue and over-excitement are essential to success. If there be loss of weight, rest in bed and general massage with olive oil have yielded me excellent results. This is specially the case in those subjects who are distinctly neurasthenic. For these a complete and rigid course of Weir-Mitchell treatment may be followed by rapid progress towards recovery. After the massage physical culture, in the patient's own home, should be carried on persistently. Müller's exercises are quite suitable for most cases, and their systematic use improves the nutrition and the gastro-intestinal functions. I have not been able, so far, to convince myself that high frequency or other electrical treatments have had any curative influence.

The *diet* must be properly selected. The exact ingredients chosen will depend on the nature of the gastro-intestinal

symptoms which may be present, especially on the presence or absence of diarrhœa. A good diet should not only be a nutritious form of alimentation, but it should aim at having a therapeutic influence.

The most thorough mastication should be insisted on so as to get the maximum amount of insalivation and the greatest amount of starch digestion in the stomach. Starches are usually very well borne in simple achylia if their mastication be complete. To ensure this end they should be eaten dry. Other articles of diet and of good nutritive value which stimulate the gastric secretion must have their place in the menu. Extractives, soups, raw meat juice, raw eggs, plenty of salt and spiced foods all tend to increase the gastric flow. Depressants of secretion, such as large quantities of fat and oils, are not indicated in their crude state. I have found, however, that small doses of cod oil emulsion or of malt and oil are, in suitable cases, well borne and improve the nutrition and general tone.

A suitable dietary, for cases without diarrhœa and in which catarrhal gastritis is absent, would be as follows:—

At 8 a.m. breakfast.—Two eggs or white fish, &c., rusk or toast, small cup of tea or *café au lait*. Dose of artificial digestive.

At 11 a.m.—Dry biscuit, cracknel, rusk, toast, &c., chewed till absolutely liquefied in the mouth. When finished a glass of water, milk, or bouillon to be sipped very slowly.

At 1 p.m. dinner.—Strong soup (ox-tail, beef tea, &c.). Meat underdone and grilled. Stewed fruit. Biscuit and cheese. Dose of artificial digestive.

At 4 p.m.—Another farinaceous meal (dry potato, toast, stale bread). When finished, fluid as may be prescribed.

At 6 p.m. supper.—White fish, cheese soufflé, omelette, small portion of stale bread. Dose of artificial digestive.

At 10 p.m.—Bowlful of gruel, Benger's food, or some other starchy material to be sipped slowly.

If any signs of *gastric fermentation* be present gentle *lavage*, twice weekly, with normal saline solution at 100° F., is very useful. This is specially so in catarrhal affections, with achylia, associated with the accumulation of tenacious mucus.

Hydrotherapeutic measures are also to be recommended. The employment of hot compresses, Aix-massage-douche, and the alternate use of cold and hot douches over the gastric region are all useful therapeutic measures.

2. *Medicinal treatment* aims at stimulating the gastric glands to a better secretion. Bitters are sometimes useful, but alone are not sufficient. By far the most important therapeutic agent we possess is hydrochloric acid, more especially when it is combined with pepsin. If it be kept in mind that about three pints of gastric juice are normally secreted in twenty-four hours, and that hydrochloric acid is present in from 0·1 per cent to 0·2 per cent, it will be seen that the dose of dilute acid must be very large. Indeed, it is not practicable to administer all the acid represented in the normal output. In cases of permanent total achylia the administration of hydrochloric acid must be as continuous as is the administration of thyroid in myxœdema. But in all those in which the glands are not destroyed, but only functionally inactive, the patient's gastric contents should be tested at intervals to avoid the possibility of producing an artificial hyperchlorhydria. The dilute hydrochloric acid should be administered in one dose after the three principal meals. These should contain all the proteid material which is to be administered in the day's dietary. These three meals should be taken at five-hourly intervals. Starchy material should not form a large proportion of their contents. The carbohydrates should be partaken of in the intervals—three hours after each meal—and should, as far as possible, be eaten quite dry, and any fluid which may be desired taken when the solids are finished.

It will be found in practice that perhaps the best form for administration of the artificial digestive is—

R.—Acidi hydrochlorici diluti,	. . .	ʒi-ii
Glycerini pepsini,	. . .	ʒii½
Extracti condurango liquidi,	. . .	ʒi
Aquæ chloroformi,	. . . ad	ʒvi.—M.

SIG.—ʒii, in water, thrice daily after food.

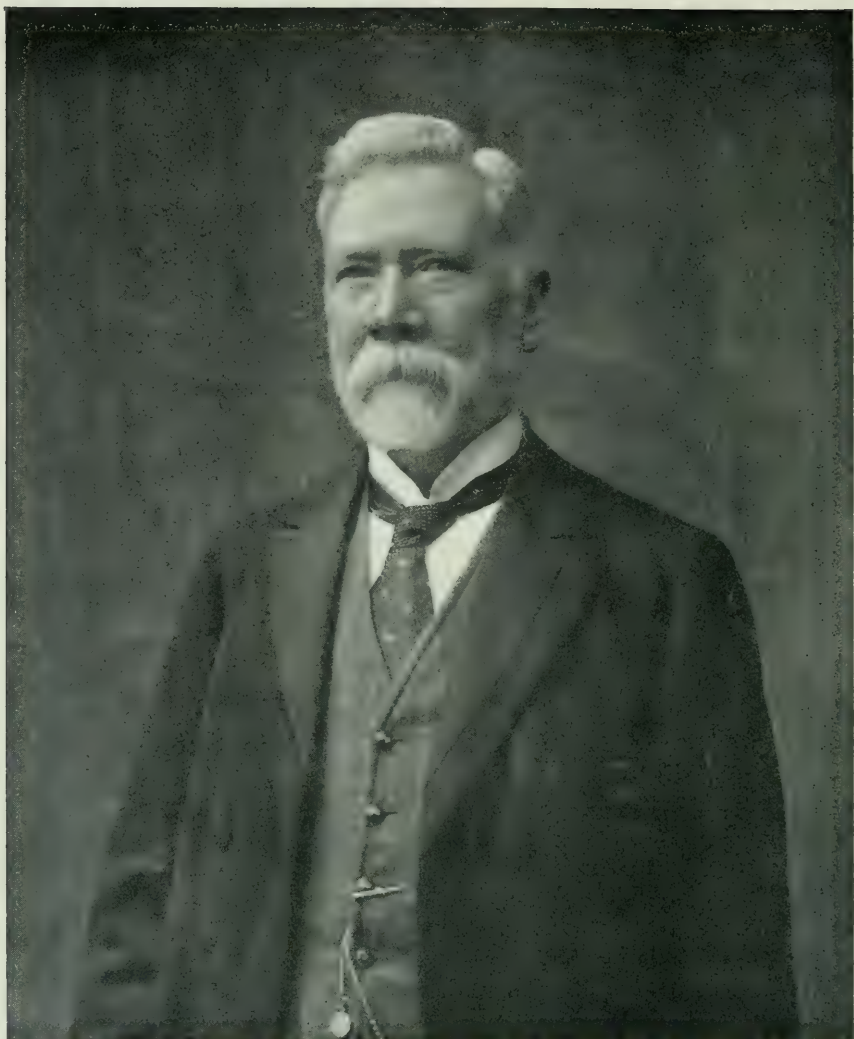
If any fermentation is evident, a small dose of resorcin may be added to the above. Various other bitter tonics may also

be tried from time to time during the treatment. Sometimes strychnine is useful, with or without physostigmine. In cases where there is motor insufficiency, as in the achylia with gastropstosis, this combination will be found useful:—

R.—Strychninæ,	. . . . .	gr. $\frac{1}{24}$
Physostigminæ salicylatis,	. . . . .	gr. $\frac{1}{96}$
Quininæ hydrochloridi,	. . . . .	gr. i
Extracti euonymi,	. . . . .	gr. $\frac{1}{4}$
Gingerine,	. . . . .	gr. $\frac{1}{4}$.—M.
• Ft. pil. mitte tales, 60.		

SIG.—One pill thrice daily after food.

In the treatment of pernicious anæmia we are too often content to administer arsenic alone, and to think that no further medicinal treatment is of any value. But much good can be done to prevent toxæmia and improve the blood in proportion to our ability to remove the accompanying achylia or to compensate for its presence. Many of the severe gastrointestinal symptoms which so rapidly deteriorate the patient are due to the accompanying achylia. In all cases of pernicious anæmia the treatment for achylia, in its fullest extent, should never be omitted. To the artificial gastric juice may be added an appropriate dose of the acid solution of arsenic.



From Photo. by]

[Warnecke, Glasgow.

THOMAS BARR, M.D.

(1846—1916)

Obituary.

THOMAS BARR, M.D. GLASG., F.R.F.P.S.,
LECTURER ON DISEASES OF THE EAR, GLASGOW UNIVERSITY.

READERS will learn with deep regret of the death of Dr. Thomas Barr on Thursday, 14th December, at his residence in Woodside Place, Glasgow.

Dr. Barr was born at Elderslie, Renfrewshire, on 18th April, 1846, and was therefore a little over 70 years of age at the time of his death. He was educated at St. James' School, Glasgow, and from there he went to the University of Glasgow to study for the medical profession. He graduated at that University in 1868, having been a student of Lister's when the great surgeon was initiating and introducing the antiseptic method of the treatment of wounds. Dr. Barr graduated as Bachelor of Medicine and Master of Surgery with highest honours. He received the degree of Doctor of Medicine at Glasgow University in 1870. After having been in general practice for nine years, and having also studied at the medical school at Vienna, he devoted his energies to the practice of otology.

In 1877 he was appointed dispensary surgeon for diseases of the ear at the Western Infirmary, and he held this position for thirty-eight years, during which period he gave instruction to many generations of students. In 1879 he was appointed lecturer on aural surgery in Anderson's College Medical School, and he occupied the post until he was appointed by the University to the newly-founded lectureship on diseases of the ear in 1895. In 1884, on the death of Dr. Cassells, he was appointed aural surgeon to the Glasgow Ear Hospital. He was honorary aurist to the Glasgow Sick Children's Hospital from its opening in 1879 until 1914. He was a Fellow of the Royal Faculty of Physicians and Surgeons of Glasgow, and was one of the examiners in otology and laryngology for the Fellowship of that body.

Among other positions which he held, the most important were the following:—President of the Otological Section of the British Medical Association at the Glasgow meeting in 1888; President of the Otological Society of the United Kingdom, 1903-1905; President of the Glasgow Pathological and Clinical Society, 1899-1901; President of the Scottish Otological and Laryngological Society at the Glasgow meeting, 1911; Vice-President of the Otological Section of the International Medical Congress in London, 1913.

Dr. Barr's best known contribution to medical literature was his *Manual on Diseases of the Ear*, the first edition of which was published in 1884, and the fourth edition in 1909. In the production of the latter Dr. Barr was associated with his son, Dr. J. Stoddart Barr. This *Manual* is very popular among students, both in this country and in America.

Among other articles from his pen were:—"Methods of examination and general semeiology of the ear," in Allbutt's *System of Medicine*, 1908; "Effects of loud sounds upon the hearing," *Transactions of the Philosophical Society of Glasgow*, 1886; "Giddiness and staggering in ear diseases," *British Medical Journal*, 1895; "Guide to the examination of the ear and hearing," 1908; "The hearing of school children," *Schoolmaster*, 1889; "Treatment of intracranial abscess following purulent disease of the middle ear," *Archives of Otolaryngology*, 1895.

Dr. Barr's interests in otology belonged more particularly to the clinical rather than to the pathological side. He was especially interested in the intracranial complications resulting from middle-ear suppuration, and was one of the first to point out the fact that one of the pathways of infection was through the labyrinth and thence into the internal auditory meatus. In his paper at the Philosophical Society of Glasgow, on the "Effect of loud sounds upon the hearing," he uttered a protest against some of the discordant noises of modern town life. The need for protest is even stronger to-day than when Dr. Barr read his paper.

Dr. Barr's personality was very friendly and interested, and his students will not readily forget the trouble and care which he took in giving them their introduction to otology. In his teaching class he laid particular emphasis on that aspect of otology which deals with the intracranial complications of ear

disease, for he realised the danger of allowing any individual to enter into practice without having at least some knowledge of the clinical signs and symptoms by which those complications are recognised.

Dr. Barr's nature was affectionate, and the very serious and prolonged illness of his only son, several years ago, must have told heavily upon even his vigorous constitution. He remained, however, remarkably alert, both physically and mentally, until several weeks ago when there began the illness which was to prove fatal. Our readers will join with us in expressing our deep sense of sympathy with his widow and her family.

The accompanying photograph is a good likeness of Dr. Barr.

THOMAS HUNTER, L.R.C.P.E., L.R.F.P.S.G.,
NEWCASTLE.

WE regret to announce the somewhat sudden death of Mr. Thomas Hunter, of Benwell, Newcastle, which took place towards the end of November. He was the only son of the late Thomas Hunter, M.D., of Polquharter, New Cumnock, Ayrshire, and was born there on 7th October, 1839. He studied medicine and surgery at Glasgow University, and in 1869 took the qualifications of L.R.C.P.E. & L.R.F.P.S.G. He afterwards became medical officer of public health at Longtown, Cumberland. Subsequently he held a similar appointment at Middleton-in-Teesdale, but for a quarter of a century had been in private practice in Benwell. He was able to attend patients as recently as ten days before his death. He is survived by a widow, five daughters, and five sons, three of whom are serving in His Majesty's Forces.

PETER GORDON, M.B., CH.B. GLASG.

WE regret to announce the death of Mr. Peter Gordon, which took place suddenly at Masterton, New Zealand, on 1st November. A student of the University of Glasgow, Mr. Gordon took the degrees of M.B., CH.B. so recently as November, 1914.

EUGENE DOYEN, PARIS
(1859—1916).

DOYEN, the Napoleon of modern surgery, was his own worst enemy. Defiant of precedent, impatient of etiquette, contemptuous of convention, he fought for his own hand in a city where officialism and routine had exceptional strength, and he won his way, if not to esteem and regard, at least to a respectful recognition and consideration, even at the hands of those who liked him least.

Bacteriologist—his first book, in the early eighties, was an atlas of bacteriology; histologist—the laboratory claimed as much of his time as the operating theatre; mechanic—his most considerable contribution to surgery lies perhaps in his instrumental perfections; operator—no one more than he has, in the last twenty-five years, added so many new procedures to the surgeon's art—Doyen may well be pardoned the faults of his fierce and impulsive nature, and recognised, as indeed he was, a surgical master of the first rank.

He was the first to use the cinematograph as a means of demonstrating the steps of an operation to students. I recollect nearly twenty years ago, in the summer of 1898, he did his first hemi-craniotomy, with the cinematograph recording the admirable technique of that operation, which, thanks to his special instruments, he easily completed in nine minutes. A small group of friends joined him at dinner the same evening in the Bois de Boulogne, among them the German surgeon, Lauenstein, of Hamburg (six feet six inches, and, as my old chief, Sir Hector Cameron, wrote me, as great in mind and in heart as in stature). With what before the war we might have termed Teutonic cordiality, Lauenstein proposed Doyen's health at dessert, and hailed him as the greatest and most original surgeon he had ever seen. I seem to hear even yet his big, guttural voice as, referring to the 45 degree angle at which Doyen frequently operated, he said, "That is not the Trendelenberg position; it is the Doyen position."

Contrary to repute, Doyen was not a very fast operator. I could name several to-day in Paris whom I consider faster,

among them J. L. Faure and Legueu—the successors of Guyon and Albarran. But he was an extraordinarily precise and definite and bold operator. There was no haste in his movements, even when he completed a simple vaginal hysterectomy in three minutes or an abdominal hysterectomy for fibroid in nine minutes. I should describe him as an operator careful in the essentials, *e.g.*, hæmostasis, stitches, anatomical considerations; extremely acute, if a little hasty, in diagnosis; inclined to neglect sometimes to carry his laboratory methods of asepsis to their logical conclusion in the operating theatre.

His name will live for the following operations that come to my mind as I pen these hasty lines:—Vaginal hysterectomy by hemisection, abdominal hysterectomy by avulsion of the cervix, his cerebral surgery, his treatment of osteomyelitis, his gastric and intestinal innovations (he was the first to write a text-book on the surgical treatment of non-malignant diseases of the stomach in, I think, 1888)—indeed, in all abdominal surgery.

The mechanical improvements he contributed to the arsenal of surgery were endless, and most of vast practical value. Many of them are little known or badly imitated, and given other names. His model of mouth-gag, his specially shaped periosteal elevator for ribs, his frame for applying plaster to a hip or a pelvis, his instruments for head surgery (either hand or electrically driven), his suprapubic abdominal retractor, are all little short of perfection; his vaginal retractors, the cutting tubes for reducing the size of fibroids, the elastic pressure-forceps (completely replacing the rigid forceps of Péan), are also precious. No surgeon can afford to ignore Doyen's work, and all should have his *Treatise*, however personal it may be—valuable, indeed, on that very account. When one wishes to know what a great surgeon did, one does not go to his books expecting encyclopædic information. Doyen studied with an artist's love every detail in the strength and length and form of every instrument he devised, and he was well seconded by Collin, the maker.

I am not competent to speak of his results in cancer, whether with serum or electro-coagulation. I can only say that occasionally, and in the company of some of the world's greatest surgeons, I have been the witness of cases that have dumbfounded us.

While, for various reasons, I had not met Doyen professionally for some years, I feel that his loss is, in a real sense, a loss to the world, for the man was, as it were, a force of nature with tremendous power for good. I never saw him smoke, I never saw him drink—even his own excellent champagne! And night after night I have seen him at work till two and three in the morning. He had his faults—who has not?—but he was a lovable man, true to his friends if implacable to his enemies.

“O strong soul, by what shore
Tarriest thou now? For that force
Surely, has not been left vain!
Somewhere, surely, afar,
In the sounding labour-house vast
Of being, is practised that strength,
Zealous, beneficent, firm.”

A. A. WARDEN.

PARIS, 4th December, 1916.

CURRENT TOPICS.

APPOINTMENTS.—The following appointments have recently been made:—

R. V. Howell, M.B., Ch.B.Glasg. (1905), to be Certifying Factory Surgeon for the Clacton-on-Sea District, co. Essex.

W. Howells, M.B., C.M.Glasg. (1882), to be Visiting Medical Officer to the Children's House, Toxteth Township.

Dan McKenzie, M.D.Glasg. (M.B., 1891), to be Oto-Laryngologist to the French Hospital, London.

W. MacLennan, M.D.Glasg. (M.B., 1887), to be Additional Examiner in Medicine in the University of Aberdeen.

Royal Army Medical Corps (16th November): To be temporary Major whilst commanding troops on a hospital ship—Temporary Captain G. W. Milne, M.D.Glasg. (M.B., 1901).

20th November: To be temporary Captains—Temporary Lieutenants H. Barr, M.D.Glasg. (M.B., 1905); W. Hamilton, M.B., Ch.B.Glasg. (1910); J. L. Gregory, M.B., Ch.B.Glasg. (1913).

21st November: To be temporary Captain—Captain J. Hendry, M.B., Ch.B.Glasg. (1910), from Glasgow University Contingent, O.T.C. To be temporary Lieutenants—F. N. Marsh, M.B., Ch.B.Glasg. (1910); R. Paterson, M.B., Ch.B.Glasg. (1901).

24th November: To be temporary Captains—Temporary Lieutenants T. M. Crawford, M.B., Ch.B.Glasg. (1914); W. Hornsby, M.B., Ch.B.Glasg. (1913); A. Dick, M.B., Ch.B.Glasg. (1915).

28th November: To be temporary Captains—Temporary Lieutenants J. McA. Scott, M.B., Ch.B.Glasg. (1910); R. S. Dickie, M.B., Ch.B.Glasg. (1915); R. Forbes, M.B., Ch.B.Glasg. (1915); R. T. Todd, M.B., Ch.B.Glasg. (1915); J. R. R. Ritchie, M.B., Ch.B.Glasg. (1912); W. D. Rose, M.B., C.M.Glasg. (1892). To be temporary Lieutenants—J. T. W. Stewart, M.B., Ch.B.Glasg. (1911); W. L. Walker, M.B., Ch.B.Glasg. (1905).

9th December: Major L. W. Harrison, D.S.O., M.B., Ch.B.Glasg. (1897), to be temporary Lieutenant-Colonel whilst in command of a Stationary Hospital.

11th December: To be temporary Captains—Temporary Lieutenants J. M. Frazer, M.B., Ch.B.Glasg. (1915); F. W. Martin, M.B., Ch.B.Glasg. (1911); W. Barbour, M.B., C.M.Glasg. (1891); W. E. Gemmell, M.B., Ch.B.Glasg. (1908); J. A. Gilfillan, M.B., Ch.B.Glasg. (1914); W. McConnell, M.B., Ch.B.Glasg. (1909). To be temporary Lieutenants—J. B. McEwan, M.B., Ch.B.Glasg. (1904); P. R. McNaught, M.B., Ch.B.Glasg. (1908); J. Cruickshank, M.D.Glasg. (M.B., 1908); T. B. Smith, M.B., Ch.B.Glasg. (1906).

ROYAL FACULTY OF PHYSICIANS AND SURGEONS: NEW FELLOWS.—At the monthly meeting of the Fellows of the Royal Faculty of Physicians and Surgeons of Glasgow, held on 4th December, 1916, the following were admitted Fellows after examination, viz.:—Samuel James Cameron, M.B., Ch.B., 30 Lynedoch Street, Glasgow, as a Fellow, *qua* surgeon, qualified to hold office; Albert William Gregorson, M.D., Edmonton Military Hospital, London, as a Fellow, *qua* physician, not qualified to hold office; and Milne McIntyre, M.B., Ch.B., 182 Pitt Street, Glasgow, as a Fellow, *qua* surgeon, qualified to hold office.

NEW JUSTICES FOR GLASGOW.—Among the new Justices of the Peace appointed on the recommendation of the Lord-Lieutenant, Sir Thomas Dunlop, Bart., is Edward McConnell, M.D., 104 Eglinton Street, Glasgow.

WAR HONOURS FOR GLASGOW GRADUATES.—In the supplement to the *London Gazette* published on 27th November, it was intimated that the following Glasgow graduates had been awarded the Military Cross:—

Temporary Captain R. M. Greig, M.B., Ch.B.Glasg. (1914), R.A.M.C. Before the war Captain Greig was assistant medical superintendent at the Ayrshire Sanatorium, Glenafton, New Cumnock.

Temporary Lieutenant G. J. McGorty, M.B., Ch.B.Glasg. (1915), R.A.M.C., attached H.L.I. Previous to receiving his commission

Lieutenant M'Gorty had acted as resident medical officer at Bellahouston Hospital. As reported in a former issue, he was wounded on 7th October, 1916.

Temporary Captain J. M'L. Pinkerton, M.B., Ch.B.Glasg. (1914), R.A.M.C.

Temporary Lieutenant Malcolm Sommerville, M.B., Ch.B. Glasg. (1912), R.A.M.C.

Temporary Captain J. W. Turner, M.B., Ch.B.Glasg. (1901), R.A.M.C. Captain Turner, who was in practice in Glasgow before the war, holds also the D.P.H. of Cambridge.

In General Sir Archibald Murray's despatch dealing with the Egyptian operations up to 30th September, 1916, and published on 2nd November, the following Glasgow graduates receive mention:—

Temporary Captain A. S. M. Macgregor, M.D.Glasg., R.A.M.C. Captain Macgregor, who before the war was tuberculosis officer for the City of Glasgow, took the degrees of M.B., Ch.B. in 1904, and that of M.D. in 1908. He has published a number of papers dealing principally with immunity and cerebro-spinal fever.

Temporary Lieutenant Malcolm Sommerville, M.B., Ch.B. Glasg. (1912), R.A.M.C. As noted above, Lieutenant Sommerville has been awarded the Military Cross.

Captain C. C. Fitzgerald, M.C., R.A.M.C. Captain Fitzgerald, who holds the triple qualification, was a well-known student of Glasgow University, whose previous services, which gained him the Military Cross, have already been recorded in the *Journal*.

Captain A. B. Sloan, M.D.Glasg. (M.B. 1897), R.A.M.C. Before the war Captain Sloan held the post of dispensary physician to the Royal Hospital for Sick Children, and had previously held that of dispensary physician to the Western Infirmary.

Captain R. S. Taylor, M.B., Ch.B.Glasg. (1907), R.A.M.C.(T.). Captain Taylor was before the war assistant pathologist to the Glasgow Royal Infirmary.

Captain D. Dickie, M.B., Ch.B.Glasg. (1903), F.R.C.S.E., R.A.M.C. Captain Dickie was before the war assistant surgeon in the gynæcological department at the Western Infirmary.

In General Milne's despatch dealing with the operations of the Salonica army, dated 8th October and published on 7th December, the following Glasgow graduates receive mention:—

Captain N. V. Lothian, M.B., Ch.B.Glasg. (1912), R.A.M.C., is

mentioned for the second time in despatches. He is a triple graduate in Arts, Science, and Medicine, and belongs to the regular army. He has seen continuous service since the outbreak of hostilities, first in France and later in the Near East. He was an energetic and highly popular student while at Gilmorehill, and a prominent member of the Officers' Training Corps.

Temporary Captain R. S. Dewar, M.B., Ch.B.Glasg. (1905), R.A.M.C., is a well-known practitioner in Govan, and holds the post of dispensary surgeon to Glasgow Royal Infirmary.

Temporary Lieutenant J. V. Grant, M.B., Ch.B.Glasg. (1907), R.A.M.C., was in practice in Glasgow before the war.

GLASGOW MEDICAL CASUALTIES.—Three casualties have been reported during the past month among Glasgow medical students and sons of medical men.

Second Lieutenant A. M. Mitchell Mackenzie, Seaforth Highlanders, who has died of wounds, was a son of the late A. F. Mackenzie, M.D.Glasg. He was 21 years of age, and obtained his commission in the Seaforths in November, 1915.

Lieutenant P. J. M'Cusker, Royal Dublin Fusiliers, reported wounded and missing, 13th-14th November, was a medical student at Glasgow University at the outbreak of war.

Lieutenant George A. Lowe, Royal Scots, whose death was intimated about the middle of December, was the elder son of the Rev. George Lowe. He was educated at Hutcheson's School and Glasgow University, where he was a member of the Officers' Training Corps, and received his commission in October, 1915. Lieutenant Lowe, who was 19 years of age, was a first year medical student.

ORGANISATION OF THE PROFESSION FOR WAR.—The presidential address of Principal Sir Donald MacAlister at the recent meeting of the General Medical Council dealt with the supply of medical students in training for medical commissions and the organisation of the profession to meet the requirements of the services, and hinted at the possibility of legislative compulsion in backward districts. He said:—

"The maintenance of the supply of male students in training for medical commissions in His Majesty's Forces has been under

serious consideration during the summer recess. I explained last May that at the instance of the Director-General of Recruiting I had instituted a census of the students in attendance on professional instruction in the schools of the United Kingdom. The figures were then incomplete, but a few weeks afterwards I was able to submit to the Army Council and to your Emergency Committee an analysis which gave the following results:—

	Men.	Women.	Total.
First year students, . .	1,422	636	2,058
Second year students, . .	783	295	1,078
Third year students, . .	519	163	682
Fourth year students, . .	1,078	145	1,223
Final year students, . .	922	140	1,062

Of the first and second years about 500 were men under 18 years of age in May, 1916; in the other years all were over 18. Fourth and final year students had already been directed by the Army Council to pursue their studies; the others at the schools of Great Britain were, or would soon become, subject to recruitment under the Military Service Act. On behalf of the committee I called the attention of the military authorities to the shortage of students in the second and third years, and suggested that in the interest of the State certain steps should be taken to diminish the apprehended danger from further depletion. The Army Council carefully considered these suggestions, and before the beginning of the present medical session issued orders to the effect that registered medical students not classed as 'fit for general service' were to be relegated to the reserve, on condition that they enrolled themselves in an officers' training corps and attended therein a prescribed course of military instruction. The result is that registered medical students called to the ranks otherwise than as combatants for service abroad will receive their military training under conditions not incompatible with professional study at home. They will thus be enabled to prepare themselves without delay for higher duty in the medical service of the country. Similar representations were made to the Admiralty, and received due attention. I am not permitted to make public all the steps that have been taken, but the Council may be assured that the Admiralty and the Army Council are fully

informed as to the importance of the problem to be solved, and that they are endeavouring, so far as existing conditions permit, to adjust in a satisfactory manner the respective claims of the combatant and the medical services upon the youth of the nation.

“The call for fresh supplies of trained and qualified practitioners to meet the needs of our ever-growing forces is more insistent now than when last we met. Only this morning I received a letter from the War Office which concludes—‘The War Office would gladly engage 400 more medical practitioners to-morrow if they were available.’ The central committees established in England and Scotland for the purpose of assisting the profession and the Government in securing a proper allocation of the available medical men, having regard to the respective requirements of the military and of the civilian services, have now been officially recognised as statutory professional committees under the Military Service Act. Under that Act every practitioner of military age and fit for service is liable to be called to the combatant ranks unless he receives a commission as a medical officer in the King’s Forces, or is otherwise conditionally exempted after inquiry by one of the professional committees. Members of this Council are taking a leading part in the work of each committee, and these will bear me out in saying that the tasks thus added to its other functions are both arduous and delicate. They have to decide what men can be spared from civil practice for military service. They have also to protect the interests of those who are absent on duty with the forces. With the aid of local committees in every district, schemes have been devised under which the remaining local practitioners may co-operate for these purposes, and in many areas every member of the profession has joined to further them. Some, I am informed, have in certain districts declined to take part in the local scheme of co-operation. They must blame themselves if they are suspected by their brethren of unworthy motives. I trust that the few who have not yet realised the duty and privilege of sharing the burdens of those who are bearing so much for us will speedily reconsider their present position and all that it involves. If the voluntary organisation of the profession which has attained so gratifying a measure of success in this country should, by reason of their

defection, fail to meet all the requirements of the medical services, we may have to face some form of legislative compulsion for districts that are backward in their response to the calls of patriotism. It may even be that increased disciplinary powers may be conferred on the Council in order that it may be the better able to deal with individual cases of unfaithfulness to the special duty imposed upon medical practitioners by the present national emergency.

"I cannot pass from this subject without referring to the admirable services rendered by women practitioners both at home and abroad. They have abundantly justified their admission to the register, and it is plain that they will, as time goes on, take an increasing share in professional life and work. The large augmentation in the number of women students preparing for medical qualification, which I have already reported, sufficiently indicates that women appreciate the opportunity for national service that is now open to them. Those who have obtained qualification, if they cannot serve with the ambulances at the front, can and do liberate men who are wanted there by serving in the military hospitals at the bases both here and on the Continent. The military authorities are specially desirous to employ more of them in hospitals for the troops at home, and are willing to give them considerable freedom of choice with respect to the command to which they are attached. I commend the appeal to all women practitioners who are physically fit for such duty, and I feel certain that they will gallantly respond to it."

Sir Donald went on to remind medical practitioners of their responsibilities in giving certificates of various kinds. The Penal Cases Committee would not hesitate to advise a judicial investigation by the Council in any case where it was credibly alleged that a practitioner's certificates or notifications were "untrue, misleading, or improper."

BELLAHOUSTON RED CROSS HOSPITAL: NEW ORTHOPÆDIC DEPARTMENT.—The opening of the new orthopædic department at the Scottish National Red Cross Hospital, Bellahouston, which was performed on 15th December by Sir Frederick Milner, Bart., in the presence of a distinguished company, permits of a long desired extension of the means of treatment available for

deformities, contractures, and disablements resulting from the healing of wounds. The new building provides for all the forms of physical and mechanical treatment now recognised as useful. There are separate rooms for heat in the form of baths, for massage, with remedial exercises, for electricity, and also for radiant heat. The whirlpool and the pool baths are a development of the French *Eau Courante*, and their distinguishing feature is that they furnish air and water in rapid motion and at high temperatures, their main object being to prepare an affected limb or part for massage, for manipulation, and for movement of the joints or muscles. Manual curative workshops are not available, but steps are being taken to have them provided with as little delay as possible.

Sir Frederick Milner, in performing the opening ceremony, congratulated Scotland on having so splendidly risen to the occasion in regard to the providing of hospital treatment for wounded soldiers, and he also congratulated the Scottish Red Cross on the wonderful work which it had accomplished. Proceeding, he said that the present arrangements for treating men suffering from neurasthenia and shell shock were far from satisfactory, and he was glad that public attention had been very strongly called to the matter, which he thought was likely to be as urgent as any matter connected with the war, for the prevalence of these cases was increasing very largely. He would not be surprised if in time to come some special establishment was set up in Glasgow in which these cases could be treated. He also hoped that some day one of the Roberts Memorial Workshops would be established in the city. But for the extraordinary advance in surgery which had taken place, the toll of our casualties would have been something that we could hardly dare contemplate. Orthopædic treatment was most essential if they hoped to be able to restore men to take up the functions of civil life again. He could point to case after case of men who had had to be discharged from the hospitals before they were anything like cured of their infirmities, and, owing to the want of orthopædic treatment, their joints had got into such a condition that it would be impossible even for that wonderful treatment to put them right now. Many of these men would be crippled for life. France led the way in that treatment, and he was told that

over 50 per cent of the men who would otherwise have been cripples for life were restored, some of them even to be able for further active service, and others to take their share in civil life.

The Duchess of Montrose, on behalf of the Executive of the Red Cross, expressed their thanks to the Scottish Command in the person of General Culling for the kind support he continually gave the Executive in everything that concerned the hospitals. Her Grace also paid a tribute to the work of the nurses.

BEQUESTS TO MEDICAL CHARITIES.—Under the trust disposition and settlement of the late Mrs. Elizabeth Kirk Steel or Alston (wife of Mr. R. A. Alston), of Ravenswood, Kilmacolm, the following sums have been bequeathed to medical charities in Glasgow and the neighbourhood:—Consumption Sanatoria of Scotland, £1,000; Glasgow and District Branch of the National Association for the Prevention of Consumption, £1,000; Lanfine Home, Kirkintilloch, £1,000; Glasgow Women's Private Hospital, £400; Western Infirmary, £300; Royal Infirmary, Glasgow, £300; Victoria Infirmary, Glasgow, £300; Royal Hospital for Sick Children, Glasgow, £300; Royal Samaritan Hospital, Glasgow, £200.

RENFREWSHIRE SCHEME OF MATERNITY AND CHILD WELFARE.—At a recent conference of representatives of the upper and lower districts of the county of Renfrew and of the burghs of Renfrew, Johnstone, Barrhead, Port-Glasgow, and Gourock, a suggested combination for the introduction of a maternity service and child welfare scheme was considered. The scheme was outlined by Dr. A. Campbell Munro, county medical officer, who said it was only intended in the meantime to provide clinics at consultation rooms, where expectant and nursing mothers and infants and young children, where there was no doctor in attendance, could attend and meet with a medical officer (preferably a lady doctor) and receive advice at a different hour from the tuberculosis patients. The cost involved in the scheme would be small, and a grant would be received from the Local Government Board of one-half of the outlay. Councillor Murray said Barrhead Town Council had employed a maternity

nurse for some time, while Provost Macfarlane said the Town Council of Port-Glasgow had introduced a maternity service and child welfare scheme on the lines indicated by Dr. Munro. The conference, after a good deal of discussion, agreed to report generally in favour of the proposal.

GLASGOW ROYAL INFIRMARY: APPEAL FOR FUNDS.—A public meeting called by the Lord Provost with the object of appealing for increased financial aid to Glasgow Royal Infirmary was held in the City Chambers on 20th November. In response to the Lord Provost's appeal a sum of £29,974 had been received prior to the date of the meeting, which was largely attended by representative citizens. The Lord Provost, who took the chair, emphasised in his opening speech the need for larger annual subscriptions, and said that though £30,000 was quite a good beginning, it was only a small portion of what he hoped would be subscribed by the citizens. He hoped they would get well on to a quarter of a million of money for the Infirmary.

Mr. Timothy Warren made a statement describing the increase in the work and responsibilities of the Infirmary since 1895, and quoted the figures applicable to that year and to 1905 and 1915, which showed that the ward admissions had nearly doubled, the dispensary attendances about trebled, and that the staff was nearly one half larger. These large increases in numbers meant increased oncost even had prices remained the same, but as time had gone on and prices had increased the addition to oncost had not been merely relative to the increased numbers, but each article had itself been enormously more expensive. Dealing with the expenditure, he said that in 1895 it amounted to £31,411, in 1905 to £39,053, and in 1915 to £61,750. No extraordinary expenditure was included in any of these figures. The result was that the expenditure had in twenty years as nearly as might be doubled. Considering the figures he had quoted with regard to admissions, dispensary attendances, the staff, and the increased cost of edibles, it was surprising rather than otherwise that the total expenditure was not more. That it had been kept at what it was was so far a tribute to the members of the House Committee. The increased expenditure was, of course, reflected in the cost per bed, which in 1895 was £56; 1905, £65; and 1915, £80. The

income with which they had had to meet the expenditure was in 1895, £24,165; 1905, £30,782; and in 1915, £33,250. In other words, in twenty years the income had improved by rather more than one-third, while the expenditure in the same period had doubled. As regards the 1915 income, however, it was only fair to say that it would have been, say, £6,000 more but for the gradual withdrawal from 1910 onwards of £150,000 from stock account to meet the residue of the expense of reconstruction, but even adding that £6,000 the total would not amount to more than £39,250, or in the aggregate upwards of £22,000 short of the expenditure. It was really that £150,000 which they were now wishful to have restored to capital account. From these figures he had excluded all income by way of legacies, that being so precarious and uncertain a quantity, but as a matter of fact the income from that source both in 1895 and 1905 was in excess of that for 1915, so that the introduction of these figures would not really affect the argument. Had it not been for legacies and bequests—gratuitous and fluctuating as that source of income was—they would long ago have been at the end of their tether, unless they had resorted to the calamitous expedient of restricting the full dimensions of the Infirmary's work.

As regarded the balance sheet, there was a residue of assets shown of £161,219, of which, however, roughly £10,000 had since gone in squaring the balance of reconstruction expenses, reducing the figures to say £150,000. Of that sum £100,000 approximately was restricted, so that they had the income only, leaving the free stock account of the Infirmary at the approximate figure of £50,000. Even that figure, however, was only a book one, for the basis was the original cost or market value of the securities, and 20 per cent under present conditions would be a moderate figure to abate, so that in the net result the free stock account available for the carrying on of the great institution was something like £40,000—a sum which would entirely disappear if they had a repetition of the experience of the last two years. In conclusion Mr. Warren said they did not ask for any such endowment as would meet, or anything like nearly meet, the whole expenditure—that would be futile and inexpedient from many points of view—

but they did seek for such a replenishment of the capital account as would assure a steady income of something like £15,000 or £20,000 per annum, leaving the rest—more than two-thirds—to be filled in by the voluntary contributions of all classes, and where these fell short, from the somewhat precarious source of legacies. That did not appear to him to be an extravagant demand, and was one which, if rightly understood, ought strongly to appeal to all classes of the community.

Lord Scott Dickson moved the following resolution:—"That this meeting of the citizens of Glasgow and the West of Scotland cordially commends the claims of the Royal Infirmary to the generous consideration of the public, and appeals for subscriptions in order to secure an adequate yearly income to enable this time-honoured institution to carry on without anxiety its beneficent work." He said that the citizens of Glasgow had made the Royal Infirmary, and had kept it for nearly a century and a quarter, and all that time it had done its good work well and thoroughly, and the citizens had recognised that it was their own institution, and one of which they felt proud. He did not mean to suggest by that that the citizens did not realise also the good work which had been done by the more modern institutions of the like kind—the Western and the Victoria Infirmaries. The reason more money was wanted was that Glasgow citizens never contemplated that Glasgow infirmaries would ever want money at all. They had now a building which could hold its own as against any other institution of the same kind in the country, except perhaps that he might say one single word about its equipment. He thought there was still something to be done regarding the provision for clinical research and for the ever-growing demands of curative surgery and medicine, which he was sure would soon be met. He hoped the citizens of Glasgow would recognise that there was a demand made on them now not merely for increased revenue, but for a filling up in the gap in the capital account, and he was quite sure that, large though the sum might be, £150,000, in this year of grace, there was plenty of floating capital going about and plenty of willing holders of it to make sure that that claim by the managers of the Royal Infirmary to fill up the gap would be met within

a very short time—even if the period seemed too short, he hoped before the year was out.

He agreed that the more clamant need was for the revenue account. When they saw that the ordinary revenue for 1915 was £33,000, and when that included about £6,000 from investments and about £5,000 from capitation grant from the Government for soldiers, so that the ordinary contributions came to only a little over £20,000, while the ordinary expenditure was £61,000, the thing would not stand a moment's consideration in a commercial community like Glasgow. The hole had got to be filled up. How was it to be done? Last year it had to be done in this way. They took their whole extraordinary expenditure from legacies and donations, £13,000, and they took £15,000 from their capital account, and they squared the account. That was not business. It was not what a commercial and industrial community like Glasgow could afford to do with regard to an institution like the Infirmary. Accordingly he thought the managers were quite right when they said they wanted £30,000 per annum more of ordinary contributions. He was perfectly certain they only required to state the facts in order to get the money. With regard to the income from public works, he quite appreciated that there were many workpeople and shopkeepers who were very hard hit at present, but there were many of them who never enjoyed such times as they had at present, and he was sure it was not from any sense of false economy or unwillingness to support an institution of this kind that they had not come forward with their money. He was sure the working men and women in Glasgow and the West of Scotland only required to be told the needs of the situation for them to say at once, "Well, you want the money; we have got it, and you will get our share."

Sir James Bell, who seconded the resolution, recalled that he had occasion in 1894 to preside at the centenary meeting of the Infirmary, and he then took the opportunity of going into its history and the work it had performed. No institution in the city had been better managed than the Royal Infirmary. It had had the advantage of the best minds in the city. Glasgow, he continued, was not doing right by the Royal Infirmary. At the present moment the people were contributing in no

comparable degree to what they did sixty or seventy years ago. It was most deplorable that in the city there were only about 4,000 people who contributed to the three hospitals a guinea a year and upwards. It was perfectly appalling to think they were in that state. It was not the working classes who were not subscribing. The works round Glasgow had subscribed continually and liberally.

The resolution was adopted unanimously.

A vote of thanks to the Lord Provost brought the meeting to a close.

In addition to the sum of £29,974 already mentioned, a further sum of £11,000 had been received at the date of the meeting in response to the "Mansion House" *brochure* and newspaper appeals. On 9th December a first list of subscriptions received in response to the special appeals was published in the public press, the amount acknowledged being £47,482. The list was accompanied by an appeal from the Lord Provost for further support.

GLASGOW WESTERN INFIRMARY: ANNUAL MEETING.—The report of the Western Infirmary of Glasgow for the year ending 31st October, 1916, was submitted at the annual meeting of qualified contributors held in the Merchants' House, Glasgow, on 30th November, Lord Provost Sir Thomas Dunlop being in the chair. It showed a growing deficit as between the ordinary income and expenditure of the institution. The ordinary income amounted to £29,107, and the ordinary expenditure to £51,857, leaving a deficit of £22,749. In the previous year the deficit was £21,114. The contributions from subscribers showed an increase of £2,754, and the ordinary income from all sources exceeded that of the previous year by £4,069. The extraordinary income (legacies, donations, &c.), totalled £13,079, and the extraordinary expenditure (repairs, renewals, painting, &c.), £1,721. Of the balance, £5,850 was transferred to stock account (restricted funds) for endowment of beds, and £5,507 was transferred towards the deficit on the ordinary income. On the extension fund the balance from last year was £14,199, and the payments during the year on the new admission block amounted to £6,120, leaving a balance of £8,078. A special appeal for a fund for maintenance

received subscriptions to the amount of £23,919, of which £16,832 was transferred to ordinary income, leaving a balance of £7,086.

The managers regretted that the ordinary expenditure, owing to the general rise in prices occasioned by the war, amounted to £51,857, being £5,704 in excess of that of the previous year. Although the ordinary income showed an increase, it fell short of meeting the expenditure by £22,749, and the total expenditure exceeded the total available ordinary and extraordinary income by £16,832. In order to meet the increased expenditure during the year it would be necessary to make a special appeal for funds, to be applied towards maintenance as might be required. This appeal was at present being made, and had already met with a generous response. In order to meet the expenses of the year, however, £16,832 of this fund had to be transferred, leaving a balance of £7,086. The unrestricted capital, in addition to the above, only amounted to £4,159, and as prices would undoubtedly be even higher in the present financial year, so narrow a margin of unrestricted funds was causing anxiety. The managers therefore earnestly appealed not only for further donations to the special fund for maintenance, but also for increased ordinary subscriptions, in order that the important work of the Infirmary might be carried out in its full efficiency. Forty-eight beds in the Infirmary had been permanently endowed, most of them in memory of deceased relatives of the donors. Four such donations were received during the year. The managers continue to place at the disposal of the military authorities 100 beds for sick and wounded sailors and soldiers, and these have been occupied from time to time by drafts of men direct from the Expeditionary Forces.

The indoor patients treated during the year numbered 9,143, compared with 9,692 in the previous year, and the outdoor patients 26,046, as against 26,958 in 1914-1915, making the total number of patients treated during the year 35,189, compared with 36,650 in the previous year. The visits paid by outdoor patients numbered 110,077, as against 100,091 in the year 1914-1915. The average daily number of in-patients was 540, as compared with 556 last year. The greatest number of patients in the hospital on one day was 658, and the smallest

462. The average period of residence of each patient was 21·62 days, against 20·94 days last year. The number of deaths was 644, or 7·51 per cent of all the cases treated to a termination. Of the fatal cases, however, 137 were of such a hopeless character when brought to the hospital that the patients died within forty-eight hours after admission. Deducting this number, the death-rate was reduced to 6·0 per cent. Of the indoor patients treated, 1,886 were medical, 6,379 surgical, and 311 gynæcological. There were 110 persons vaccinated. There was a daily resident staff of 343, making a daily average of 883 persons resident in the Infirmary. The non-resident staff engaged during the year was 458. The average cost per patient was £5, 13s. 5d., as compared with £4, 15s. 3d. in the previous year.

At the Lady Hozier Convalescent Home, Lanark, 236 sick or wounded soldiers enjoyed the advantage of an average residence of thirty-three days each. The total number of days' residence was 7,822.

The Lord Provost, in moving the adoption of the report, said that, considering the difficulties of the time, the report of the managers was exceedingly satisfactory. That the efficiency of the institution had not been impaired was due to the devotion with which those who remained at their posts had carried out the extra work involved by the absence of other members of the staff on war service. In spite of very careful management, however, the funds of the Infirmary had not been sufficient to meet the expenditure, owing in some measure to the many other calls upon the public and largely to the increased cost of living. They had only about £4,000 of free assets to draw upon, and he thought the managers had acted wisely in making a special appeal to the citizens, who, he was certain, would not see them in want. Already the appeal had brought in about £30,000, and there was more to come. On the other hand, there was need for increased annual subscriptions. Although under that head they had received about £600 more than in the preceding year, he saw no reason why the increase should not be in thousands instead of hundreds. He was not complaining, for the citizens of Glasgow by their liberality had shown an example to other cities. They would continue to do that, above all towards our great hospitals. The

managers in putting their trust in the public would not trust in vain.

Sir Matthew Arthur, who seconded, stated that the unrestricted capital of the Infirmary was almost exhausted. The ordinary expenditure in the previous year had exceeded the ordinary income by more than £21,000. This year, fortunately, there had been an increase in the ordinary subscriptions under almost every head. Thanks to Lord and Lady Newlands' generous endowment, the Lady Hozier Convalescent Home had contributed this year to the general income of the Infirmary, of which it was an integral part; but still the ordinary expenditure had exceeded the ordinary income by £22,749. Briefly stated, the position was that ordinary expenditure amounted to over £1,000 a week, while the income from invested funds was only about £100 a week, so that nine-tenths of the expenditure had to be met from subscriptions, donations, or legacies. The generous response to the special appeal had saved them from ending the year with an adverse balance. After expressing the indebtedness of the management to the staff, Sir Matthew Arthur mentioned that the Board were losing (he hoped for only a brief period) the valuable services of Mr. David Johnston, who had been convener of the Finance Committee for fourteen of the twenty years that he had been associated with the management.

The report was adopted.

Speaking to a further resolution, Sir Wm. Bilsland suggested as a good method of helping the Infirmary the endowment of beds in memory of departed relatives and friends. Several endowments of that kind had been made during the past year. It would be nothing short of a calamity, he declared, if the Western Infirmary, which had done so much for the sick and suffering during the past forty-two years, was unable to carry on efficiently for want of funds.

Colonel J. A. Roxburgh acknowledged the cordiality with which the special appeal had been welcomed, and added that in many cases they had received a good deal more money than they expected. The Infirmary had had some rocky times in its history, but it had always managed to get round the corner. It would continue to get what it needed by those who had money to give being willing to give it.

Sir James Bell made generous acknowledgment of the value to the community of the services rendered by the medical and surgical officers of the Infirmary. Glasgow had been extremely fortunate in having men of the highest skill on the staff of their great institutions. The benefits received by many of the poorer classes at their hands were incalculable.

Sir Samuel Chisholm endorsed the opinion that the Western Infirmary had been fortunate in the character, ability, and status of the men who had ministered to the needs of the patients.

The meeting, on the motion of the Dean of Guild (Mr. Hugh Reid), reappointed Sir Geo. T. Beatson, K.C.B., Messrs. Thomas Russell, Andrew Welch, R. Hunter Dunn, Henry Mechan, Nicol Paton Brown, Daniel Harvey, John Hill, Mrs. Clapperton, and Mr. Lawrence Glen as Managers for the current year. Messrs. John Gardner, James Graham, Colonel J. A. Roxburgh, and Mrs. F. J. Stephen were appointed to fill vacancies in the board.

In name of the citizens the Lord Provost offered congratulations to the matron of the Infirmary, Miss Gregory Smith, on whom the Royal Red Cross decoration was conferred some time ago.

VICTORIA INFIRMARY: ANNUAL MEETING.—The annual meeting of qualified contributors to the Glasgow Victoria Infirmary was held in the Merchants' House, Glasgow, on 7th December. The report, which was presented by Mr. William Gray and Mr. Dougald McKechnie, showed that the total ordinary expenditure for maintaining the Infirmary, the Bellahouston Dispensary, and the Convalescent Home at Largs amounted to £24,861, and the total ordinary income to £14,889, leaving a deficit of £9,971—the largest in the history of the institution. The debit balance had been made up out of legacies and special donations. The governors expressed regret that year after year legacies that were not earmarked for special purposes had to be devoted to making up the deficit in the ordinary income instead of being added to the capital fund, and thereby increasing the revenue from investments. As the legacies and special donations were not sufficient to meet the extraordinary expenditure and deficits on maintenance account, the capital fund had again to be drawn upon to the amount

of £217. The sums received in the form of legacies and special donations amounted respectively to £7,232 and £2,805. There was a gratifying increase of £790 in the general subscriptions, £248 in the employees' subscriptions, £397 in donations, and £2,002 in special donations. While these increases were noted as pleasing features of the year's working, it was pointed out that the ordinary income is inflated, many of the subscribers having doubled their subscriptions on account of the war, and many others having given donations in addition to their usual contributions to help to meet the increased costs. Taking into consideration the figures of extraordinary income and expenditure, the deficit on the total income and expenditure for the year worked out at £217.

In a detailed account of the work done at the Infirmary during the year, reference was made to the difficulties that have had to be faced through depletion of the staff. The total number of patients treated in the wards was 3,743, and the average daily number resident was 248. These figures were slightly lower than in the preceding year owing to beds being kept in readiness for wounded soldiers. The death-rate among cases treated to a conclusion was 9·6 per cent, while it was 6·8 per cent in respect of cases where patients died within forty-eight hours of admission. Surgical treatment was given in 997 cases of minor accidents. An average daily number of 16 patients received *x*-ray or electrical treatment, these involving 5,075 consultations. During the year 2,014 surgical operations were performed. Since June it had been impossible to carry on the work of the Infirmary dispensary except for specialists, owing to the depleted staff, and the surgical and medical cases had been transferred to Bellahouston Dispensary, where 7,379 patients had been treated. The Home at Largs continued to be a valuable adjunct to the Infirmary, 664 patients in a state of convalescence having been transferred there. For the maintenance of the Home, however, the Governors had had to transfer £880 from the extraordinary income of the Infirmary to meet the deficit.

The Lord Provost, who moved the adoption of the report, after a sympathetic reference to the loss the chairman of the Governors (Lord Rowallan) had sustained by the death of his son at the front, said it was a hopeful sign, despite the deficit,

that almost all the items of subscription showed an increase this year. The enormous increase in the cost of living had been a severe handicap, and but for that circumstance he believed the accounts would have squared. He urged the Governors not to be downhearted, and to look forward with the utmost confidence to the citizens to support Glasgow's great infirmaries. They had only to be told that that was necessary. Many of the working people who were making enormously higher wages than hitherto would also, he did not doubt, realise their responsibilities and subscribe more largely in future than they had done in the past. He had been almost ashamed in asking the citizens to subscribe to so many things, but he had been gratified by the way in which they had responded. Cordially acknowledging the efficiency with which the good work of the Victoria Infirmary had been carried on in spite of difficulties due to the abnormal times, the Lord Provost commended it confidently to the continued support of the people of Glasgow.

After the adoption of the report had been seconded by Mr. Archibald Walker and agreed to, the Deacon Convener (Mr. Hugh Alexander) proposed that thanks be accorded to all donors and subscribers, who, he said, were to be congratulated on the contributions they had made. The subscriptions from employees had gone up by £300, a wonderful result in view of the fact that about 250,000 men who were workmen in the city had gone on military or naval service since August, 1914. He suggested that many people who gave a guinea to the Infirmary might well give two, and expressed the opinion that a door-to-door visitation among shopkeepers and other business people might realise a good deal of money if as much vigour was put into it as was shown in regard to the collections from public works.

An interesting point was raised by Archbishop Maguire, who in moving that thanks be accorded to the medical staff remarked that we were all suffering more or less just now from deficits. He testified to the efficiency of the medical staff of the Infirmary, which had been maintained in spite of the shortage of hands. The medical profession was suffering probably most of all from the shortages due to the war, and if things became worse he believed they would all have to go to the infirmaries

when they required treatment. In that case he recommended them to apply for a line for the Victoria. Mr. A. E. Maylard, in acknowledging the vote of thanks, which was seconded by Mr. A. K. Rodger, referred to the great assistance the medical staff had received from the sisters and nurses. He admitted that a heavy burden was placed upon doctors just now, but added, amid some laughter, that if everybody by-and-by came to the infirmaries for treatment the doctors' source of emoluments would be almost lost. . *

The meeting re-elected as Governors Mr. D. McKechnie, Mr. John Dunn, and Mr. A. K. Rodger, and appointed Mr. J. S. Richmond a Governor in place of Mr. Wm. Primrose, who did not seek re-election.

GLASGOW VICTORIA INFIRMARY DORCAS SOCIETY. — The twentieth annual meeting of Glasgow Victoria Infirmary Dorcas Society was held on 14th December in the boardroom, 16 Carlton Place. Dr. Ebenezer Duncan presided. The report by the General Committee stated that last year 356 patients of the Infirmary received clothing or other help before leaving, and 1,108 garments were given away. Grants for the payment of rents to the amount of £3, 3s. 11d. had been given, while £5 was distributed in small sums to patients, and help in other directions was rendered to poor families, who were also visited by the ladies of the Society. The report emphasised the need for the continued support of the public, mentioning that parcels of clothing may be sent to the storeroom at the Infirmary and subscriptions to Mrs. Stevenson, 40 Prince's Square, S. The work of the War Committee, in sending packets of dried fruit to the men of the Scottish regiments at the front, had been carried on with unabated zeal. Up to the present time 1,278 cases, containing over 146,888 packets, had been sent to France and the East.

The Chairman proposed the adoption of the report. He said he had had twenty years' experience as a physician in the Infirmary, and he could speak from his own knowledge of the great benefit which the patients had received from the Dorcas Society.

Councillor McDougall seconded. He spoke of the great usefulness and success of such a society, and said that those

who were engaged in the public health administration of the city appreciated what was done through their agency in preventing illness. The work of prevention was quite as important as the giving of immediate aid.

The report was approved, and the General Committee was reappointed, with Mrs. Alexander as convener.

HIGGINBOTHAM SICK POOR NURSING ASSOCIATION. — The annual meeting of this Association was held on 29th November in the Home, 218 Bath Street, Glasgow, the Lord Provost in the chair. Mr. D. S. Carson, C.A., the secretary, submitted the annual report, which stated that the sick poor visited daily by the district nurses represented all creeds and sects. The number of cases treated during the year amounted to 2,783, and the total number of visits paid was 70,942. The total income for the year from all sources had fallen short of the expenditure by £447. The report of the Ladies' Auxiliary Association stated that by the exertions of the lady collectors and superintendents a sum of £449 had been collected. During the year the Auxiliary Clothing Society had distributed 608 garments, and 1,054 articles essential for the comfort of patients were lent in cases of serious illness.

The Lord Provost and the Rev. Mr. M'Gilchrist spoke in high terms of the work of the Association, and the report was approved.

Mr. A. E. Maylard, in proposing a resolution commending the Association to the support of the public, said that if patients on returning from the infirmaries to their homes had not the care that was necessary to carry out the instructions of the doctors and surgeons the curative results hoped for could not be obtained, and in that direction the district nurses had been the greatest help that surgeons could desire. The homely domestic aspect of the work performed by the nurses was also of great value, and if the public only realised what those nurses were doing there never would be a deficit in connection with such an institution as theirs.

REVIEWS.

Treatise on Fractures. By JOHN B. ROBERTS, A.M., M.D., and JAMES A. KELLY, A.M., M.D. With 909 Illustrations, Radiograms, Drawings, and Photographs. Philadelphia and London: J. B. Lippincott Company. 1916. (25s. net.)

THE subject of fractures seems to have a fascination for American surgeons, if we may judge by the number of treatises and articles in American surgical literature. Here we have an addition to the long list, this time from the hands of Professor Roberts and Dr. Kelly, both of Philadelphia.

The authors, in their preface, thank the publishers for their part in the "presentation of this volume to the medical profession in such an attractive form." With this we are in complete agreement. But, while form means a good deal, it is, after all, the contents which matter, and we must approach them irrespective of the appearance of the volume.

The matter is arranged systematically in twenty-nine chapters, of which the first two deal with the subject in a general way. The remaining chapters are concerned with fractures of individual bones.

Throughout the text there is the same systematic handling of the subject, a fact which facilitates the work of the reader, whether he be studying the volume or merely using it as a reference in a particular case. Further, the authors' views and directions are clearly set forth, and there is every evidence of careful thought before committing to paper.

With regard to treatment, there is no undue advocacy of one particular method. At the same time, definite lines are laid down and details furnished, and the reader cannot complain of any lack of helpful directions.

A very good sample of the volume will be found in the section on fractures of the lower end of the radius. After mentioning statistics, caution is given against the indiscriminate

use of the term "Colles's fracture." The etiology is fully considered, and is followed by an enumeration and description of the varieties—fourteen in number—of fracture met with in this region. Symptoms, diagnosis, and differential diagnosis follow. Lastly, treatment is taken up, then after-treatment, and the section closes with a consideration of after-results. The section occupies about thirty pages, and is illustrated by 54 figures in the text. These are, for the most part, radiograms, others are photographs of patients, the rest show application of splints, &c.

We have investigated other sections of the book with a similar result, and it would serve no purpose to go into details. We are agreeably impressed with the uniform excellence of the illustrations. This, together with the soundness of the matter, leads us to recommend the volume to our readers. It is not only a good treatise, but it is also a reliable work of reference, and the authors are to be congratulated on the production of a volume of such merit.

Anatomia de los Conductos Biliares y de la Arteria Cística.

By Dr. PEDRO BELOU. Buenos Aires: Imp. "Oceana." 1915.

THIS admirable work by the professor of descriptive anatomy in the Faculty of Medical Sciences at Buenos Aires merits more attention than, owing to the language in which it is written, it is likely to receive in this country. Spanish is but little known among members of the British medical profession, and even original work like this of Dr. Belou is slow in finding a translation. It is, nevertheless, without question the most exhaustive treatise in existence on the anatomy of the bile ducts and cystic artery, being based upon very numerous personal dissections of adult and foetal bodies, and also of those of various vertebrates. It demonstrates that the text-books have contented themselves in regard to the hepatic duct with repeating the brief description traditional since the time of Sappéy; indicates and corrects the diversity of opinion in regard to the ductus choledochus; and shows that, much as has been learned in recent years from surgical operations, it is only in regard to what may be called

the surgical portion of the ducts that any accurate knowledge prevails. The book is striking, not only for the thoroughness and value of its original research, but for the sumptuous manner in which it has been produced. Its illustrations, both coloured and plain, are perfect in detail and ensemble, and of an artistic beauty with which even the best of our anatomical publications can hardly attempt to vie. A young anatomist with the necessary familiarity with Spanish could hardly be better employed than in the translation of so important a work.

La Science Française. Two Volumes. Paris: Ministère de l'Instruction publique et des Beaux-Arts. 1915.

THESE two handsome volumes, published by the French Ministry of Public Instruction and Fine Arts on the occasion of the International Exposition of San Francisco and under its auspices, form a kind of commentary on the library of French science there exhibited, and illustrate the magnitude of the debt which in science as in art, in literature, in culture, and in chivalry, the world owes to France. The library contained, for each science, books indicating the first steps on the voyage of discovery, the heights whence new horizons were perceived, the halting-places of to-day, and the new directions in which to-morrow's progress may be sought. The critical and expository article in these volumes has been written, for each science, by an expert. M. Lucien Poincaré, for example, contributes a general introduction, M. Bergson the article on philosophy, M. Appell that on mathematics, M. Le Dantec that on biology, M. Roger writes upon the medical sciences, M. Maspero on Egyptology, and M. Ch.-V. Langlois on the study of history. Among these contributions that which naturally most appeals to us is M. Roger's article, and it may suffice to recall a few of the men he mentions—de Chauviac, Paré, Vieussens, Petit, Bichat, Laënnec, Bernard, Pasteur, among medical men and biologists; Cruveilhier, Broca, Sappey, among anatomists; Réaumur, Magendie, Brown-Séguard, Flourens, Duchenne, Richet, among physiologists; Calmette and Metchnikoff among general pathologists: and among medical pathologists, to follow

M. Roger's classification, Corvisart, Andral, Potain, Trousseau, Hanot, Ricord, Fournier, Déjerine, Marie, Babinski—to show how rich in genius are the medical annals of France. It is to be hoped that we have shaken ourselves free of the obsession that there is no science but that of our enemies; whatever it has done for the world it has undone in its last base uses. These volumes come at an opportune moment to show us what we had been prone to forget, that the initial step in many a new path of progress has been French. Pasteur was the true father of Koch.

Clinical Disorders of the Heart Beat. By THOMAS LEWIS, M.D., F.R.C.P. Third Edition. London: Shaw & Sons. 1915.

THE third edition of Dr. Lewis's little volume has followed so rapidly on its predecessors as to prove its great utility, and to show that it supplies a real want in indicating how the more recently described disorders of cardiac activity can be appreciated at the bedside without the use of costly and elaborate apparatus, in the technique of which a special training is necessary. Without making any essential alterations in the conclusions at which in previous additions he had arrived, Dr. Lewis has subjected his text to a thorough revision, and has added to it the fruits of his later experience. His book is indispensable to anyone desiring an adequate acquaintance with the clinical results of recent cardiological work.

Essentials of Histology. By Sir E. A. SCHÄFER, F.R.S. London: Longmans, Green & Co. 1916. (10s. 6d. net.)

THIS is the tenth edition of the deservedly popular *Essentials of Histology*. This edition has been completely revised, and many additional illustrations, for the most part photographs of microscopic preparations—very good some of them are—have been incorporated. As a result the book is just a little larger than the previous edition. These *Essentials* are undoubtedly the best student's book of histology on the market.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

M E D I C I N E.

Thoracic Compression in Place of Artificial Pneumothorax in the Treatment of Pulmonary Tuberculosis. By M. le Dr. Jaquero, Leysin (*Gazette Médicale de Paris*, 7th June, 1916).—The author admits the striking results which have followed the production of pneumothorax in selected cases of advanced pulmonary phthisis, how expectoration is diminished or entirely suppressed, fever reduced, hæmoptysis arrested, and patients, who were apparently condemned to early death, restored to a certain measure of health. At the same time, he draws attention to the limitations and risks of this method, the selection of the cases, the anatomical and physiological changes produced in the lung and other organs, serous and purulent effusions, digestive troubles, albuminuria, and the possibility of relapses after decompression.

He combats the view expressed in recent years that as the method is so successful in advanced, it should be tried in earlier, cases.

In treating patients by artificial pneumothorax, he has been struck with the very appreciable improvement which frequently follows the first introduction of nitrogen (say, 200 to 300 c.c.), when only a minimum compression has been obtained, and he argues from this that a moderate compression, kept up in a regular manner for a long time, might favour the cicatrization of the pulmonary lesion without having recourse to the more or less complete compression advocated by Forlanini and his school.

The method advised is compression of the lower part of the thorax by a firm linen bandage, *i.e.*, compression of the part which shows greatest movement normally. The bandage is put on firmly, and tightened each day. As a result, expiration is lengthened compared with inspiration, and the expiratory portion of the respiratory murmur is likewise lengthened. By this method he has obtained results similar to those obtained by artificial pneumothorax. He finds it most suitable for apical phthisis, and particularly in the young (say, from 17 to 30 years), in whom the thorax is compressible; and considers that the Forlanini method still holds the place of honour in advanced cases.

—GEO. A. ALLAN,

The Etiology of Diseases of the Circulatory System (Abstract of Lecture). By T. C. Janeway, M.D. (*Bulletin of the Johns Hopkins Hospital*, September, 1916).—Of 2,021 white patients (85.1 per cent of the whole) admitted during the period under review, 8.8 per cent gave a positive Wassermann reaction, 1.6 per cent had syphilis of the aorta, while 2.4 per cent had chronic endocarditis.

The relationship of syphilis to hypertension was investigated, and of 320 patients with hypertension only 3.2 per cent of the white patients gave a positive reaction, being less than that for all the white patients admitted.

Myocardial insufficiency was found in 250 patients; one-third of these were associated with hypertension. Chronic endocarditis and syphilis each account for about one-sixth. Primary myocardial insufficiency (chiefly arteriosclerotic), emphysema, bacterial endocarditis, thyroid intoxication, and various minor causes, in order, account for the remainder.

He concludes that certain measures now possible will yield definite results in tending to reduce these diseases, among others, viz. :—

1. Early diagnosis and treatment of syphilis.
2. Reduction in preventable infections, *e.g.*, diphtheria, scarlet and typhoid fevers.
3. The regarding of "rheumatism," especially in children, as a serious disease.

No large reduction in the mortality is likely until two problems have been solved, viz. :—

1. The ultimate causes of hypertension and of chronic nephritis.
2. The infectious agent of rheumatic fever and its portal of entry.

The great need of the moment, he maintains, is for more knowledge of the causes, which means ceaseless investigation.—GEO. A. ALLAN.

DISEASES OF CHILDREN.

The Spinal Fluid in Mongolian Idiocy. By H. C. Stevens, M.D., Chicago (*Journ. Amer. Med. Assoc.*, No. 18, 1916).—As a result of the examination of 18 cases of this congenital abnormality, the author comes to the conclusion that it is "beyond doubt" the result of syphilitic infection. He bases this opinion on the Wassermann reaction being positive in the blood in 6 cases, and in cerebro-spinal fluid in 2 cases, on the increase of globulin content of cerebro-spinal fluid in all the cases, and on the presence of the gold chloride reaction, which is, for him, typical of cerebro-spinal syphilis, also in all 18 cases. He admits, however, that it is not to be considered a form of frank cerebro-spinal syphilis, but that it is probably an infection of the endocrine glands, *e.g.*, pituitary gland, primarily, a hypothesis supported by the high sugar tolerance and high calcium retention of Mongolians.—LEONARD FINDLAY.

Congenital Obliteration of Bile Ducts. By Jas. B. Holmes, M.D., Baltimore (*Amer. Journ. Dis. Children*, June, 1916).—In this paper the author reviews the majority of the previously recorded examples of congenital obliteration of the bile ducts, and appends a diagrammatic representation of the condition found in cases passing to sectio, and a fairly full bibliography.

He inclines to the view that the condition is due to some developmental error. There is, he states, a considerable range of normal variation in the gross anatomy of the biliary tract and in the width of the various lumina. If the lumen is congenitally narrow, or if it is narrowed by pressure or traction, it would seem possible that its walls might adhere and the patency of the lumen thus be lost, as very little bile passes through the ducts in the early months of foetal life. And further, as normally there is during foetal life a hyperplasia of the mucous membrane of the ducts, it is reasonable to consider this a contributory factor. He points out that in 16 per cent of his recorded cases the anatomical relationships were such that surgical intervention was theoretically possible, and, in consequence, he advocates exploratory laparotomy in all cases in which the diagnosis of obliteration of the ducts seems certain.

He mentions 6 cases which had been treated surgically, but of these only 2 recovered, and as these 2 cases were 4 years and 19 years of age respectively, and the jaundice did not make its appearance till the age of 3 years, they can hardly be classed as true cases of congenital obliteration of the bile ducts.

—LEONARD FINDLAY.

The Reliability of the Electrical Diagnosis of Tetany, with Especial Consideration of the Electrical Values found in Normal Children. By J. B. Holmes, M.D., Baltimore (*Amer. Journ. Dis. Children*, July, 1916).—In view of the reputed importance of the electrical reactions in the diagnosis of tetany, and the absence of any collective statistics regarding the behaviour of these in normal children, the author carried out a fairly extensive investigation, and came to the conclusion that the reactions are much lower for older children than are usually supposed. He shows that not infrequently in health the A.O.C. is more sensitive than the A.C.C., a point to which Von Pirquet has given great importance as a diagnostic feature of tetany. His figures demonstrate fairly conclusively that K.O.C. is not obtained, at least under 6 years of age, with a current of less than 5 milliamperes, and even after that age readings only very slightly lower were obtained. (It will be remembered in this connection that it is the behaviour of the K.O.C. which is anything like universally admitted to be diagnostic of tetany.)

This author states that he has frequently found the facial phenomenon positive in health after 5 years of age, and in 16 to 25 per cent of children above 8 years.—LEONARD FINDLAY.

Books, Pamphlets, &c., Received.

Pulmonary Tuberculosis in General Practice, by Halliday G. Sutherland, M.D. With 6 plates, 42 figures in the text, and 9 charts. London: Cassell & Co., Limited. 1916. (10s. 6d. net.)

Obstetrics, Normal and Operative, by George Peaslee Shears, B.S., M.D. With 419 illustrations. London: J. B. Lippincott Company. 1916. (25s. net.)

The Student's Text-Book of Surgery, by H. Norman Barnett, F.R.C.S. London: William Heinemann. 1916. (21s. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR
THE FOUR WEEKS ENDED 23RD DECEMBER, 1916.

	WEEK ENDING			
	Dec. 2.	Dec. 9.	Dec. 16.	Dec. 23.
Mean temperature, . . .	41·5°	37·8°	36·4°	35·1°
Range of temperature between highest and lowest, . . .	16·7°	18·0°	13·9°	12·5°
Amount of rainfall, . ins.	0·60	0·81	0·77	1·52
Deaths (corrected), . . .	299	345	384	410
Death-rates,	14·3	16·5	18·4	19·6
Zymotic death-rates, . . .	0·5	0·5	0·3	0·5
Pulmonary death-rates, . .	4·0	5·4	6·4	6·7
DEATHS—				
Under 1 year,	47	62	64	75
60 years and upwards, . .	88	104	117	138
DEATHS FROM—				
Small-pox, . . . . .	...	...	...	...
Measles,	4	4	3	2
Scarlet fever,	2	1	1	2
Diphtheria,	2	1	1	1
Whooping-cough,	4	1	2	5
Enteric fever, . . . . .	...	...	1	1
Cerebro-spinal fever, . . .	...	3	1	1
Diarrhoea (under 2 years of age),	4	5	4	3
Bronchitis, pneumonia, and pleurisy,	66	90	110	119
CASES REPORTED—				
Small-pox, . . . . .	...	...	...	...
Cerebro-spinal meningitis, .	3	3	3	1
Diphtheria and membranous croup,	39	25	36	24
Erysipelas,	22	12	19	8
Scarlet fever,	70	58	61	42
Typhus fever, . . . . .	...	3	...	...
Enteric fever,	5	2	9	...
Phthisis,	66	53	43	43
Puerperal fever,	2	4	7	3
Measles,*	62	66	82	85

* Measles not notifiable.

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ORIGINAL ARTICLES.

THE ACTION OF PITUITRIN ON THE SURVIVING
HUMAN UTERUS.

BY FRANK J. CHARTERIS, M.D.

OUR knowledge of pharmacology is derived chiefly from experiments on the lower animals. The results so obtained are transferred to the human species with possibly very dubious results. As used in human therapeutics, drugs seldom are used to produce an immediate result; in most cases many hours or even days elapse before the therapeutic result is obtained. In pharmacological experiments it is usually impossible to wait so long, and the drug under investigation is given in sufficient amount to produce its action within a few minutes. In many cases the results so obtained do not at all represent the therapeutic action, but rather the toxic action of the drug. When we consider, further, that the animals used in the experiments are selected not specially for their resemblance to the human race, but rather for the ease with

which they can be manipulated, it is obvious that an additional factor of error is readily introduced. Possibly if all our drugs were reinvestigated on monkeys the experimental results would be of more value than the ordinary investigations on rabbits, guinea-pigs, and frogs. The ideal method of investigation is obviously the study of the action of the drugs upon the human subject. In many cases such study is impossible, but in one type of experiment, viz., on the surviving organs, it is almost as easy to carry out the investigation on the human tissue as on the surviving tissues of the lower animals.

Some work of this nature has already been done by Gunn on the human intestine, and by Loeb on the human uterus. Last summer I repeated Loeb's work on the human uterus and use the results for this contribution. Owing to the kindness of Dr. Sam. Cameron, Dr. Jardine, and Dr. Archibald Young, I was able to obtain fresh tissue removed at operation. If cut into strips immediately and immersed in a suitable fluid the tissue retains its contractility for many hours. If it can be investigated immediately, no special precautions are necessary, but, if it has to be kept for several hours, it is advisable to place the solution on ice, or keep it in an ice chamber.

Loeb used for his experiments oxygenated Ringer's solution. For my work I used Tyrode's modification of Ringer's solution.*

The actual experiment is made with a thin strip of the uterine tissue about one inch in length and about one-eighth of an inch in thickness and about the same in width. One end of the strip is attached to a bent glass rod, and the other end to a lever which records any movement on a smoked paper moving at a slow rate. The whole strip is immersed in Tyrode's solution, which is kept at a uniform heat between

* Tyrode's fluid—

KCl,	0.42
NaCl,	9.0
NaHCO ₃ ,	0.5
CaCl ₂ ,	0.24
MgCl ₂ ,	0.075
Glucose,	1.0

Water 1,000

39° and 41° C. A stream of oxygen is kept bubbling through the solution. In the course of from 40 to 60 minutes the tissue begins to contract. At first the contractions are somewhat feeble and few in number, but they soon become regular in rhythm, and gradually increase in extent till in the course of the next half-hour or so a regular rhythm is established, resulting in rather slow powerful contractions. By adding a measured quantity of the drug to be investigated the effect can readily be studied. In performing the experiment it is essential that the heat should remain constant. Too great a heat produces a typical heat tetanus. When the temperature falls too low the contractions are sluggish, few in number, and unduly prolonged. Once the contractions are established they go on for several hours. The lever can be weighted to produce a suitable excursion.

Loeb¹ in his work found that pituitrin has a very prompt and marked affect upon the human pregnant uterus, increasing the rate of contraction and the tonus. In the non-pregnant uterus he made the surprising observation that pituitrin in small doses had no action, and in large doses may produce a very definite depression.

My material includes non-pregnant tissue, tissue removed after early abortion, and tissue removed by Cæsarean section at full time. I found no essential difference in the response to pituitrin in the pregnant and non-pregnant human tissue. Both responded promptly to pituitrin by an increased activity. The contractions are more numerous, the individual contraction is shorter, the relaxation is somewhat quicker, and the tonus is markedly increased. This action is very promptly produced. Within a minute of adding the pituitrin the stimulant action is seen, and, as a rule, the stimulation lasts for several minutes (15, 20, or 30 minutes). A subsequent additional dose either renews the stimulus or intensifies the action if the previous effect has not entirely passed off.

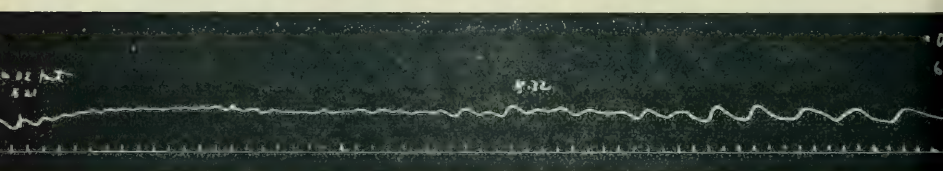
In addition to pituitrin various other uterine tonics were tested—adrenalin, ergotin, liquid extract of ergot and quinine, but none of them produced the prompt effect of pituitrin. Ergot was unreliable. Fresh standardised preparations were fairly active, but old preparations were inactive.

Pituitrin was, as far as possible, tested in conditions analogous to those in which it is used clinically, *e.g.*, when the uterine contractions were failing in strength or ceasing. Even in these conditions its stimulant action was well shown. When the contractions had ceased for some time, it promptly initiated regular strong contractions and strengthened contractions which were becoming weak.

A number of tracings are reproduced which illustrate these various points. In all cases the tracings are reduced to one-quarter of the original, and the time is uniform throughout and marked in minutes.

Tracing No. 1.—Action on non-pregnant uterus, removed during operation for salpingitis and ovarian cyst.

The woman was 37 years of age, and had borne two children, the younger being 4 years old. She had no subsequent miscarriages and was not pregnant. In the unreduced tracing the rate of contraction was 3 in five minutes before the pituitrin



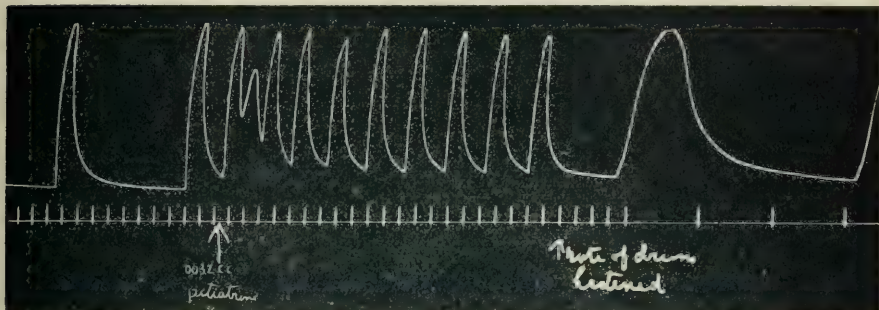
TRACING NO. 1.

Pituitrin (1 in 5,000) on non-pregnant uterus.

was added. The average remission reached 0·85 cm. above the abscissa, and the average contraction reached 1·20 cm. above the abscissa, giving range of 0·35 cm. Within a minute of adding pituitrin to make 1 in 5,000 in the Tyrode fluid the stimulant action is manifest, the succeeding relaxation being only to 1 cm. of the abscissa. The maximum rise is obtained ten minutes afterwards, when the tracing is 1·6 cm. above the abscissa. The tonus is much increased, the relaxation only extending to 0·05 cm. The rate is increased to 5 contractions in five minutes. This tonic action lasted for twenty-six minutes, and, as it passes off, the uterine contractions fall to the former

rate of 3 in five minutes, but remain stronger and more ample.

In two other non-pregnant uteri, with rather larger doses of



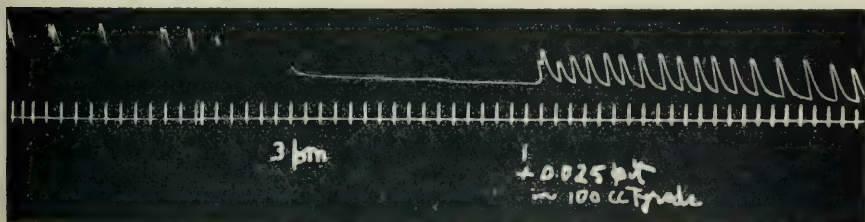
TRACING NO. 2.

Action on subinvolved uterine tissue after abortion.

pituitrin, a prolonged tonic contraction, lasting for over thirty minutes, was seen, but owing to their length the tracings are not reproduced.

Tracing No. 2.—Action on subinvolved uterus, removed three days after abortion for fibrosis.

The tracing was made one hour after operation. Before

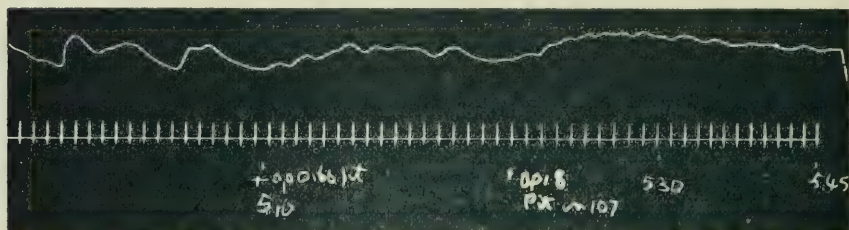


TRACING NO. 3.

Subinvolved uterus three days after abortion; action in uterine inertia.

pituitrin is added the uterus is contracting slowly at the rate of 3 in twenty minutes. Pituitrin, to make 1 in 4,800 of the Tyrode fluid, was added during the relaxation of the second

contraction shown in the tracing. The action is immediately shown in the inception of a more rapid rate (10 contractions in twenty-one minutes), and increased tonus. At the end of the



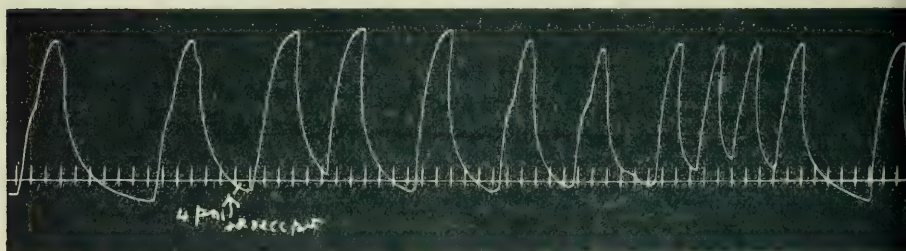
TRACING No. 4.

Action on full-time pregnant uterus.

tracing, corresponding to the second arrow, the rate of the drum is made much faster. The stimulant action persisted for sixty minutes.

Tracing No. 3.—Same uterine tissue.

Tracing made with a strip of same tissue twenty hours after removal. It shows the stimulant action in a quiescent state of the uterus, corresponding to uterine inertia. The tracing is imperfect; in the beginning only showing the tops of the



TRACING No. 5.

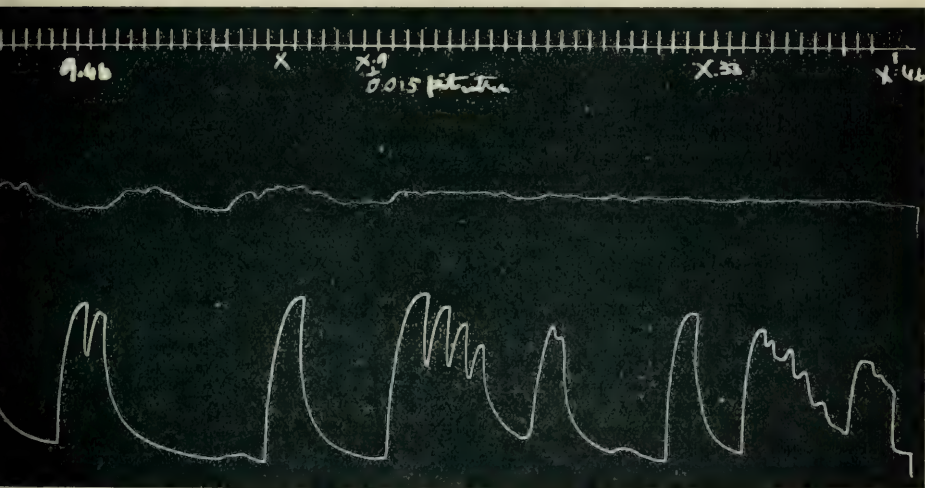
Full-time pregnant uterus.

contractions, which were at the rate of 7 in twenty-two minutes. Then succeeds a period of seventeen minutes without any contraction, but the addition of pituitrin, to make 1 in

4,000 of the Tyrode fluid, causes immediate resumption of regular contractions. Unfortunately, the connection with the lever was working loose, and no increase in tonus can be detected as the connection was slipping and, at the end of the tracing, became detached.

Tracing No. 4.—Full-time pregnant uterus removed at Cæsarean section.

Before pituitrin, fairly regular, vigorous, but slow contractions. A small amount of pituitrin, to make 1 in 64,000, causes a marked increase in tonus, with imperfect relaxation



TRACING NO. 6.

Full-time pregnant uterus.

but more numerous contractions. When the action is passing off twenty-one minutes later, a further dose of pituitrin (1 in 6,000) again causes rise in tonus and increase in number of contractions. The action persisted for twenty-three minutes.

Tracing No. 5.—Full-time pregnant uterine tissue.

Slow, regular contractions, at the rate of 3 in twenty-three minutes, before pituitrin (1 in 5,000) is added. The effect is

promptly seen in a premature contraction within a minute. Rate is increased to 9 in forty minutes. Relaxation is not so complete, and contractions rise higher, *i.e.*, increased tonus. Whole contraction is quicker. Action shown for over half an hour.

Tracing No. 6.—Full-time pregnant uterus.

Upper tracing, circular fibres; lower tracing, longitudinal fibres. Under action of 1 in 6,000 pituitrin the uterine contractions become much more rapid, and tonus is increased.

REFERENCE.

- ¹ *American Journal of Obstetrics and Diseases of Women and Children*, 1915, vol. lxxi, No. 2.
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RESIDUAL URINE IN THE SENILE BLADDER, WITH SPECIAL REFERENCE TO THE CONDUCT OF THE CASE SO AS TO POSTPONE OR AVOID THE USE OF THE CATHETER.

BY DAVID NEWMAN, M.D.

(Continued from p. 15.)

I do not purpose considering the pathology of Guthrie's bar formations or enlargements of the prostate in detail, but it is necessary to draw attention to the various types of obstruction.

I. *The bar formations* may be divided into three groups according to the structures which form the barrier.

(a) *Valvula mucosa* where the valve is composed simply of a fold of mucous membrane rising up from the posterior wall at the orifice. This form of the disease is rare, and is met with where the lobes of the prostate are unusually small.

(b) *Valvula muscularis* is the most common variety of bar obstruction, and practically consists of a reduplication of the whole thickness of the bladder wall formed across the posterior aspect of the bladder just above the neck. The bar is hard, thick, and covered by an atrophied mucous membrane.

(c) *Valvula musculo-glandularis* is also common, and while the bar contains muscular elements, its protrusion into the lumen of the neck of the bladder is due also to a limited hypertrophy of the middle lobe of the prostate. The bar is usually not so sharply defined as in the other varieties, and is more or less lobulated.

II. *In prostatic obstruction*, leaving out of account malignant disease, we have two kinds of enlargement, one in which the glandular tissue predominates, and another where the connective tissue prevails; the former is due to the development of a neoplasm, the latter to an inflammatory hyperplasia.

(a) *Benign adenoma of the prostate*, commonly called hypertrophy of the prostate, is the variety most frequently met with, especially in what I have described as the "quiet bladder." The gland is much enlarged, and probably in about two-thirds of the cases all the lobes are involved. By this enlargement the internal meatus is carried forward and the urethra is much distorted, but the openings of the ejaculatory ducts escape the adenomatous transformation. The growth is not firmly adherent to the fibrous sheath or capsule.

(b) *In inflammatory hyperplasia* of the prostate the disease is in no sense an hypertrophy; it is a degenerative rather than a constructive formation, a sclerosis involving the connective tissue elements. It may predominate in one or both lateral lobes, or the enlargement may be limited to the isthmus. The new-formed fibrous tissue becomes firmly adherent to the capsule, and as the fibrous tissue contracts the constriction at the neck of the bladder becomes greater, and the urethra beyond dilates. The enlargement of the prostate is not usually great unless acute inflammation has been set up. This affection is generally associated with the "irritable bladder."

THE DIAGNOSIS.

To find out the exact character of the obstruction it is required that we base our opinion, not on one symptom or physical sign, but it must rest upon a complete inquiry into the whole conditions, and a careful exclusion of all other possible deceptive factors which may lead to a fallacious conclusion. We have not only to exclude urethral stricture, cystitis, tuberculosis of the bladder or prostate, tumours and calculi, but also to determine in detail the morbid condition at the neck of the bladder. This is done by physical examination.

1. Detection of residual urine.
2. Cystoscopic examination.
3. Rectal examination.
4. General condition of the patient, but especially the state of the kidneys.

The detection of residual urine is of primary importance, and generally the amount is an index to the age and the degree of obstruction, although it is no indication of the extent of the disease. The bladder being distended to its ordinary measure, the patient is directed to pass water; the urine which comes away spontaneously is guaged and kept for examination. The urethra is then examined, and a No. 12 gum-elastic catheter introduced. For my own use I prefer it to a coudé or a bi-coudé, but it should be used as follows:—A new carefully sterilised instrument should be well softened in hot water, and the stilette given a wide curve. With the patient lying on his back, and the surgeon standing on his left hand side, the instrument is introduced till the point passes through the triangular ligament. The stilette is now held fixed with the surgeon's left hand, while the catheter is pushed onwards with his right hand. This lifts up the point of the softened catheter so that it easily rides over the obstruction, along the floor of the urethra, glides into the bladder, and the residual urine begins to escape. The stilette is then withdrawn, the urine collected and measured. One note of warning. Never use a metal instrument or a hard catheter of any kind in examining a new case. In hospital practice I have had sent to me quite a number of patients where perforation of the bladder has been caused by the use of such instruments. Not necessarily unskilful use, but very awkward in its result. In old-standing cases of "irritable bladder" the walls may be pouched in places, softened and very thin, so that the least pressure of the point of a hard catheter may cause perforation. Last month (December, 1916), I had a case of this kind sent to me at the Royal Infirmary, when the patient suffering from an old valvular obstruction at the neck of the bladder developed retention, a metal instrument was used, and it perforated a saccule on the posterior wall of the bladder. The anterior wall is very seldom softened or pouched, so perforation is a rare occurrence in that part, hence the safety of using the softened gum elastic catheter in the manner described. The point is kept away from the posterior wall, the danger spot. Before removing the catheter, and preliminary to a cystoscopic examination, the capacity of the bladder and its power of contraction should be estimated by fully distending the bladder, and allowing it to empty itself as

described above (p. 9). The length of the urethra may also be estimated by withdrawing the catheter until the solution no longer runs, showing that the eye of the instrument has passed beyond the neck. The penis may then be stretched, and the catheter marked at the level of the external meatus. The distance from the eye to the mark is the length of the urethra. Normally this is eight inches, but in enlarged prostate the length is increased in proportion to the protrusion of the gland into the bladder.

Cystoscopic examination should always be made some time prior to any radical operation for very obvious reasons.

(1) To determine the exact condition of the bladder and exclude fallacies in diagnosis.

(2) To ascertain the nature and extent of the obstruction—adenoma of the prostate, sclerosis of prostate or Guthrie's bar.

(3) To ascertain the activity of the kidneys, and the absence or presence of renal disease.

Where obstruction exists it is essential to know whether the bladder is healthy or diseased, to determine the absence of tuberculosis, tumour, or calculus, and to find out how far the bladder walls have become altered as a consequence of increased pressure or inflammation, as revealed by atrophy and anæmia of the mucous membrane, thickening of the walls as shown by trabeculæ, or the presence of diverticula.

In adenoma of the prostate the protrusion of the gland into the bladder is pronounced and can be easily seen; indeed, often it is necessary to peer over the rounded swelling to see the trigone and orifices of the ureters. The nodules are smooth, rounded, and generally covered with healthy mucous membrane. The extent of the growth can easily be made out by systematic examination, first of the floor, then the sides, and last the anterior walls. Often deep clefts are seen between the different lobes. When the bladder is free from infection the walls are smooth and pale in colour, and frequently the neck of the bladder is so high up that it is with difficulty that an ordinary cystoscope reaches the cavity when distended with 10 oz. of solution. Without the lateral lobes being much involved

enlargement of the middle lobe may offer effective obstruction to the exit of urine, and often causes complete retention. According to statistics the middle lobe is alone enlarged in about 13 per cent of the cases, but taking those in which the median and both lateral lobes are involved we must include 67 per cent of all the cases. The abrupt obstacle presented by a middle lobe enlargement is the most important factor in producing an obstruction. As a rule, it can be easily seen with the cystoscope, but when the median enlargement is prolonged into the prostatic urethra it escapes observation to some extent. Hence we cannot judge from the cystoscopic appearances alone the extent of the enlargement of the middle lobe. Here the finger in the rectum is helpful.

In hypertrophy of the middle lobe alone or combined with enlargement of the lateral lobes a kind of diverticulum or pocket is often found immediately behind the neck of the bladder; this has been described under the term "*bas fond*." It is important, as it harbours residual urine which cannot be evacuated and is often difficult to draw off, is prone to decompose and cause toxæmia; alkaline salts are then deposited, and calculi are liable to form and become lodged in a position out of reach of the sound although usually visible to the cystoscope. When a sacculæ is seen in this position it is desirable to make the cystoscopic examination with the patient in the elbow-knee position, and the fingers in the rectum pressing the sac upwards and forwards, so as to empty out any calculi lodged within the pouch. Even with this precaution stones may escape detection, and an *x-ray* photograph may be necessary to reveal their presence.

In sclerosis of the prostate the enlargement is much less pronounced, but the secondary changes, inflammatory and other, are marked. The swelling is rough on the surface, irregular, covered by congested mucous membrane, trabeculæ are marked, and pouching is common. The bladder is contracted and the residual urine is small in amount. With the cystoscope in the bladder and the finger in the rectum the amount of tissue intervening is found to be considerable, but not so great as in true hypertrophy of the prostate.

In bar formations no intravesical enlargement, so characteristic of hypertrophy and sclerosis, can be observed, but a more or less distinct convexity or a straight line can be seen to replace the normal concave contour of the neck. The alteration in the posterior lip may consist of a thickened elongated and elevated flap of mucous membrane only. This flap is usually congested, and the normal translucent aspect of the mucous membrane is lost (*valvula mucosa*). On passing the finger into the rectum no increase in the tissue at the neck of the bladder can be discovered. This is the least advanced stage, but as the disease develops the changes become more marked. If the cystoscope be directed towards the posterior wall of the bladder a distinct elevation and levelling up of the posterior floor will be observed, when the cystoscope is withdrawn it comes out of the bladder with a jerk, and on rectal palpation a distinct bar can be felt between the stem of the instrument and the finger (*valvula muscularis*).

In the third variety of bar obstruction (*valvula musculo-glandularis*), the conditions approach those seen in limited enlargement of the middle lobe with sclerosis, and indeed it is impossible clinically to draw a line between these two diseases: they merge into one another, and the distinction is more a pathological than a clinical one.

The kidneys play such an important rôle in all cases of residual urine that special attention must be directed to these organs before any operative interference is undertaken.

If the urine is clean, sterile, acid, free from albumen, sugar and tube-casts, the kidneys may be regarded as medically healthy; but while this is so, there may be dilatation of the ureters and pelves from backward pressure. These dangers may be detected by physical examination, also by observing the appearance of the orifices of the ureters. On the other hand, should the urine be found to be turbid, septic, alkaline, and purulent, the surgeon must determine whether the contamination has taken place in the bladder or higher up.

The bladder alone may be involved, or the kidneys may be included. How are we to find out the true position? The presence or absence of enlargement of one or both kidneys, pain or discomfort in the lumbar regions, renal elements in the urine,

clear or cloudy urine escaping from the ureters, the appearance of the orifices, the nature of the urine drawn off by the ureter catheter, all tell whether the kidneys are healthy or diseased. In addition it is advisable to know the total excretory power of the kidneys. The best and most easily applied are the phenol-sulpho-naphthalein test, and estimation of the urea volume. The polyuria test may also be easily employed. A complete pathological and chemical examination of the urine, together with the clinical data, furnish the means of making a good diagnosis as to the whole clinical picture of the case. To say that a man is suffering from the effects of residual urine as a consequence of an enlarged prostate or a Guthrie's bar is not a diagnosis of his case. To give a disease a name is a very easy thing to do, but to know fully all the conditions of the case is the diagnosis. It is not simply to distinguish between one disease and another, but to know the man's whole being as far as we can with our present powers of observation.

TREATMENT.

Treatment may be considered under three heads—palliative, catheter, and operative measures. The two first mentioned will be discussed briefly; in respect to operative treatment only general questions will be enquired into, the details being beyond the scope of this article.

(a) *Palliative treatment* is resorted to not only to lessen pain and discomfort or to restore the patient's health, but may be employed also as a preparation for catheter or operative treatment, or with the aim of postponing or avoiding the habitual use of the catheter, or what is called "Catheter life."

Unfortunately, there is a belief that the catheter should only be used when retention has become established, and the constant call is, why pass a catheter, when the urine is coming away itself? Many old men dread the use of the catheter, and deceive both themselves and their doctor into the belief that the bladder is being completely emptied, while really it is not.

Take first the cases which seek advice in the early stages of the disease. As pointed out above (vol. lxxxvii, p. 10), the bad habit of not completely emptying the bladder is one of the most

fatal errors, but if guarded against in the way I have already described, the use of a catheter may be put off for months, sometimes for years, and marked improvement may result both in the general health and the local condition.

When the bladder is sterile, or when there is a mild bacillus coli infection, the urine may be highly acid. This tends to irritate the mucous membrane, causing frequency, burning, and tenesmus, which may be relieved by administration of alkalies and alkaline salts, tinctures of hyoscyamus or of belladonna, codein; but morphia should be avoided. Diet must be simple and moderate in amount, exposure to cold and wet, travelling, riding, cycling, and much active exercise should be avoided if they cause increased irritation, but if not, exercise in moderation is good, especially golf.

It is bad practice to confine an old man to bed unless absolutely necessary, but occasional rest in bed for a day is good, if the patient is directed to rise and walk about his room three or four times in the day, say for ten minutes.

In cases of "still bladder" with prostatic adenoma, especially in the early stages when the gland is soft and vascular, and in chronic prostatitis, much benefit may be derived from prostatic massage, both by reducing the size of the growth and the amount of residual urine, which is generally large. The patient being in the elbow-knee position, the surgeon, with a rubber glove well lubricated, introduces his forefinger into the rectum, and gently massages the different parts of the gland in succession, from the middle line outwards. The massage must be done regularly and steadily and continued for ten minutes, and no great force should be used. After the massage the patient should empty his bladder. The treatment, if it does not induce irritation, may be repeated every third day, but if any pain follows its use a longer time should intervene between the applications. In inflammatory enlargements massage may lead to permanent cure, but in true hypertrophy to temporary relief only.

When the bladder is septic we have to deal with an "irritable bladder," and the quantity of residual urine is small. Internal remedies are not of much service if we except boric acid and helmitol, or a combination of boric acid and benzoate of soda. Fluids should be taken in good quantity, and milk diet adhered

to three days a week and stimulants avoided. The administration of infusions of uva ursi, pareira brava, or triticum repens in doses of 8 oz. three times a day is advisable. Local treatment must also be employed, but this will be considered later on.

(b) *Catheter treatment*, in cases of residual urine, is adopted with various objects in view, which must be kept clearly separated from one another. (1) To diminish the nocturnal calls to micturition and to prevent secondary complications; (2) for cleansing purposes and to allay irritation; and (3) to relieve retention.

When the case is seen early palliative treatment gives considerable relief, and, if carried out thoroughly, avoids for a considerable time the necessity of the catheter. What then are the circumstances which determine the habitual use of the catheter? There are three—(1) the circumstances that palliation fails, or has ceased to give relief; (2) the amount and character of the residual urine; and (3) the degree of frequency.

The first need only be mentioned in order to distinguish between the occasional use of the catheter for cleaning the bladder, where it may be looked upon as a palliative and temporary measure only, and the constant and regular employment of the instrument for the withdrawal of residual urine. In cases of "quiet bladder" where the urine is clean and practically sterile the quantity is the main guide, whereas in the "irritable bladder" where the urine is cloudy the problem is more complex, and many factors require to be considered in coming to a decision.

It will be well to consider first the "quiet bladder." The normal average amount of urine voided by a man in health is about 12 oz. at a time, and this is passed in the morning, at night, and two or three times during the day. Now, assuming the normal quantity to be 60 oz., take a case where the residual urine amounts to 6 oz.; unless the bladder is unduly stretched, as soon as it is occupied by 12 oz. the patient should have a desire to pass urine, but he voids only the half of it; as a consequence he should be called upon ten times in the twenty-four hours in place of the normal

five. But this is not the case. There is a tendency for the bladder to become less and less sensitive, gradually to dilate, and ultimately to become incompetent. The employment of the catheter is to prevent this happening; to use it before there is an urgent demand for it, as the back pressure even of sterile urine produces serious complications. This is the most important consideration. Sterile residual urine is not harmless. A very wrong idea prevails that so long as the urine remains clear, no matter what the quantity retained may be, the use of a catheter is not called for. No worse practice could be followed, because it is by this waiting until the bladder becomes distended to 20, 30, or 40 oz. that all the harm is done. Waiting for overflow incontinence results in complete retention.

In cases of quiet bladder, as soon as the residual urine reaches 6 oz. it should be made a rule to pass a catheter every evening before retiring to rest, and at the same time to instruct the patient to see that he passes water frequently, even although no special demand is made to do so, and if the residual urine exceeds 6 oz. the catheter should be passed morning and evening. If the quantity retained is greater than the quantity voided without help, the catheter must be used so as never to allow the bladder to be distended over 15 oz.; and when the power to urinate becomes feeble the catheter must be used at regular intervals, not according to the calls to micturate. The reason for giving this advice is that in advanced cases the sensitiveness of the bladder to distension is gradually diminished, and a considerable quantity of urine may accumulate before the demand to micturate is made. My experience, which is now very considerable, has taught me to do all that can be done to prevent over-distension. If in an old man the bladder is even once over-distended and overflow incontinence occurs, do what you please the bladder never regains what it has lost. It remains an enfeebled bladder. In the past, discredit was attached to the use of the catheter unless in cases of retention; then its use became imperative. But it also became dangerous, and very often the surgeon who first used the catheter was blamed, whereas the blame really should have been given to the attendant who failed to employ the instrument earlier in the course of the malady. A slight infection in a habitually over-distended bladder may prove a very serious matter, whereas

the same infection to a less impaired organ may cause little or no harm.

This is a subject of every day observation. A patient, who himself has been passing a catheter perhaps for years, always keeping his bladder free from over-distension, as far as asepsis goes, may be using the catheter in a most careless way, yet without doing much harm. Another man presents himself. He has never had a catheter passed in his life; he is suffering from overflow incontinence; a catheter is passed with the greatest care; all aseptic precautions are employed, but serious symptoms requiring prompt treatment follow immediately. Surely the surgeon who employed the catheter for this the first time is not to blame. Danger lies in the condition for which the catheter was used. So the discredit should be attached to the patient who it may be unknowingly concealed his trouble, or to the attendant who failed to advise the use of the catheter at a much earlier time.

In these cases, the neglected ones, where there is a large amount of residual urine, the very greatest care is required. By overflow incontinence the urine has got an only means of escape. The patient has slowly reached a crisis when he seeks relief. It is well to remember all the conditions present. A greatly dilated bladder occupied by residual urine, the overflow alone escaping, the ureters and renal pelves dilated and the kidneys unhealthy; for a long time there has been a backward fluid pressure. To relieve it suddenly is a mistake. By doing so a profound passive hyperæmia of the mucous membrane of the renal pelves and the mucous surface of the bladder may be induced, indicated clinically by copious hæmorrhage. There is also danger of rapid lymphatic infection.

(*To be continued.*)

CASE OF MEDIASTINAL TUMOUR WITH EXPANSILE PULSATION.

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St. Mungo (Notman) Professor of Pathology, Glasgow University ;

Pathologist, Glasgow Royal Infirmary.

THE diagnosis of mediastinal tumour from aneurysm of the arch of the aorta, while fortunately in many cases it presents a comparatively simple problem, is in some, as every practitioner of any standing must have experienced, a matter of extreme difficulty. The physical signs which the two conditions present may be almost identical, and the symptoms produced by pressure upon adjacent structures, since both aneurysm and mediastinal tumour may occupy a precisely similar site, afford no certain differential indication. The criteria upon which in doubtful cases most reliance is to be placed are the following:—That aneurysm is exceedingly uncommon in persons who have not had syphilis; that pain of a severe character and particularly of an anginoid type is more frequent in aneurysm than in tumour; that emaciation, cachexia, and rapid progress speak for tumour; that vascular symptoms such as murmurs, pulsation, and altered character of the second aortic sound are more common in aneurysm; and that when an aneurysm presses upon neighbouring vessels it is the arteries which are principally affected, with the result that the two radial pulses may be found to differ in character and force, while a tumour is more likely so to implicate the veins as to produce conspicuous cyanosis and œdema, which are less commonly features of aneurysm. Of recent years two additional means of examination, the Wassermann reaction and investigation by the x -rays, have aided in making the diagnosis more certain. In the absence of clinical evidence of past or

present syphilis, a positive Wassermann may still add to the probability of aneurysm; a negative reaction is strongly against that diagnosis. But of all the links of evidence the presence of expansile pulsation is that which is universally held to point most conclusively to aneurysm. A tumour pressing upon the aorta may cause murmur by producing a local diminution of its calibre. It may also in some instances have the pulsation of the vessel imparted to it and through it to the examining fingers. But this pulsation does not take place in all directions; it is not expansile; and if on digital examination expansile pulsation can be felt, or if on *x-ray* examination it can be seen, the diagnosis of aneurysm is held to be established. The case which follows is interesting as emphasising once more the lesson which cannot be too often repeated that, rare as the exceptions may be, there is no medical axiom of universal application.

J. M'K., aged 53, a miner, was admitted to Ward 3, Glasgow Royal Infirmary, on 13th June, 1916, complaining of pain in the stomach and chest of about eight months' duration. His family history threw no light upon the case, his father having died at 75 and his mother at 68, both of unknown cause. One brother died of consumption at 14, another of "blood-poisoning" at 30, and one sister in infancy. One brother and four sisters were alive and well. His wife was also healthy, and he had ten children, of whom one died at 7 of pneumonia. He lived in a room and kitchen house with seven other members of the family, but he had plenty of good food. He smoked in moderation, but until recently drank heavily. He had always been healthy till the onset of his present illness, had never had a severe sore throat, or any rash upon his skin, or severe headache, and absolutely denied syphilitic or gonorrhœal infection at any time.

During the past twelve months he had suffered from constipation, and eight months before admission he began to be troubled by a constant pain in the epigastric region, aggravated by taking food, especially butcher meat and potatoes. He had never vomited nor suffered from heartburn or waterbrash, but he frequently complained of flatulence. A month after its onset the pain became severe enough to make him stop

work, which he had been unable to resume, and it tended to radiate upwards into the chest. About the same time his voice altered, and he stated that on the day when he stopped work it was so husky that no one could make out what he said. From that time the pain became steadily worse. It was almost constant, and of a gnawing character, and though mainly localised in the epigastrium it radiated at times into the lower abdomen, at other times into the chest and shoulders, and into the back between the shoulder-blades.

On examination the patient was seen to be a well-developed man, but distinctly emaciated. His weight (in health, 11 st. 10 lb.) was now 9 st. 1 lb. There was considerable anæmia; cyanosis was only slightly present, though he stated that he had at times become conspicuously cyanosed on lying down. There was dilatation of the superficial veins of the chest. The temperature was normal, the pulse-rate 100, the respiration-rate 20. There was considerable arterio-sclerosis, and the systolic blood-pressure was 190 mm. of mercury. The radial pulses were of equal volume. The apex beat was invisible and impalpable, but the left border of superficial cardiac dulness lay just within the nipple line, while the right was at the left sternal border, and the upper at the upper border of the fifth rib. The heart sounds were weak and indistinct, but free from murmurs. An area of dulness was found over the manubrium sterni, almost central in position, with a maximum transverse measurement of 3 inches, and separated from the upper limit of cardiac dulness by rather more than a finger's breadth of clear percussion note. There was no visible or palpable pulsation in the upper part of the chest. The lungs presented nothing abnormal except some hyper-resonance, particularly at the apices, where expiration was prolonged. The breath sounds were of equal intensity on the two sides. The accessory muscles were slightly used in inspiration. There was no interscapular area of dulness. The teeth were carious, there was pyorrhœa alveolaris, and the tongue was furred. There was no evidence of dilatation of the stomach, and on palpation of the epigastrium there was no tenderness, undue resistance, or palpable tumour. The other abdominal organs were normal. The urine was of normal specific gravity and free from albumen.

An *x*-ray plate, taken on 14th June and here reproduced (Fig. 1), showed a considerable enlargement of the area of



FIG. 1.

Skiagram taken 14th June, 1916.

the cardiac shadow, probably concealed from the percussing finger by the emphysema of the lungs. Continuous with this,

in an upward direction, was a dense shadow occupying the whole extent of the mediastinum, and reported by the radiographer to be definitely pulsatile. The Wassermann reaction was negative.

A week after admission a short and faint systolic murmur was noted in the aortic and pulmonic areas and over the manubrium, and the second pulmonic sound was found to be slightly accentuated in both areas. These murmurs proved to be transitory, and, though they reappeared from time to time, they were only occasionally audible during his stay in the Infirmary. The voice was husky and somewhat feeble, and laryngeal examination revealed pressure on both recurrent nerves with partial adductor paralysis. The pupils were equal, and responded to light and accommodation.

The patient remained in hospital until 30th August, 1916, with considerable improvement in his symptoms. The cyanosis disappeared, and the epigastric pain abated and finally ceased; but pain in the chest persisted, although with lessened intensity. It was only once so severe as to require a dose of omnopon (14th July). He lost weight slightly until 9th August, when he weighed 8 st. 9 lb., but he then began to gain, and before he left hospital the weight was 8 st. 11 $\frac{3}{4}$ lb. The dilatation of the veins was unaltered, repeated *x*-ray examination showed some increase in the size of the manubrial shadow, and a corresponding increase in the area of dulness was noted on percussion. The treatment consisted in absolute rest in bed, and iodide of potassium in 10-grain doses thrice daily. On two occasions (22nd July and 1st August), owing to the increase in the area of dulness, an injection of 40 c.c. of sterilised gelatine was made into the gluteal muscles, without apparent effect either for good or ill.

He was re-admitted on 22nd September, 1916, all the symptoms from which he had previously suffered having returned in an aggravated form. Cyanosis was conspicuous, and there was considerable dyspnoea. The veins of the face, neck, upper part of the thorax, and right arm were much dilated, and there was some œdema of the neck, right arm, and chest wall. He complained of substernal and præcordial pain, and the voice was very husky. The blood-pressure was 120 mm. of mercury. The cardiac dulness had increased in

its transverse measurement, the left border being a little beyond the nipple line and the right about the right border of the sternum. The sounds were weak but pure, except over the manubrium sterni, where a soft systolic murmur was audible. The second aortic sound was not accentuated. His general condition was such that injections of strychnine were at first necessary; but with rest in bed his symptoms considerably improved, the cyanosis becoming less, and the œdema

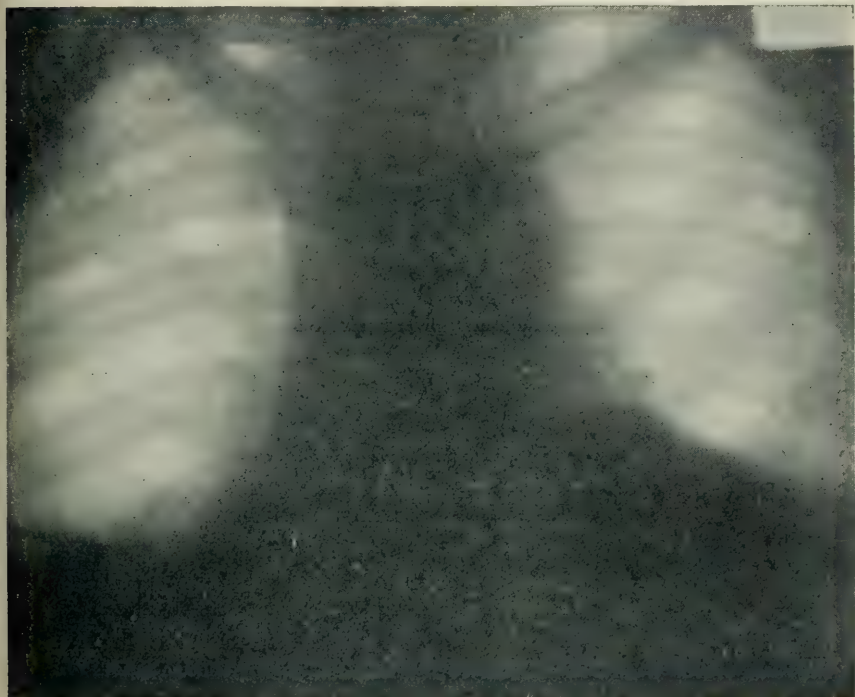


FIG. 2.
Skiagram taken 3rd October, 1916.

of face and arm almost disappearing. He was again put on iodide of potassium, and by 3rd October it was possible to make another *x*-ray examination, which showed (Fig. 2) a considerable increase in the mediastinal shadow, and a very notable increase in the cardiac shadow. The radiologist again noted that the mediastinal shadow was definitely pulsatile, and the plate was sent up to the ward with a positive diagnosis

of aneurysm of the aorta. On 10th October the weight was 8 st. 7 lb., a loss of $4\frac{3}{4}$ lb. in two months; a fortnight later, under the influence of rest and feeding, it had risen to 9 st. A further laryngeal examination on the same date showed that the condition remained much the same, the right cord being more affected than the left. From the last week of October his state rapidly grew worse. Œdema again increased, affecting the same parts as formerly, with the addition of the left arm, and entirely sparing the lower limbs. Both arms, the face and neck, and the upper part of the chest became markedly œdematous and cyanosed, and the dilatation of the superficial veins was conspicuous in all these parts; the cardiac dulness rapidly expanded in a transverse direction (there was never at any time pericardial friction or throughout the course of the case any febrile disturbance), and in the last weeks of life dulness and diminution of the breath sounds appeared at both bases, particularly the left. The manubrium sterni now began very slightly to protrude, the tissues over it were a little boggy to the touch, and in the second right intercostal space, close to the sternal border, a faint and distant pulsation could be felt, though no visible pulsation was ever appreciable. Towards the end œdema and cyanosis were intense; the patient could only whisper; and death, which occurred on 21st November, was preceded by coma and Cheyne-Stokes breathing.

The following is the report of the *post-mortem* examination made on 22nd November:—

The body was that of a big, powerfully built, somewhat emaciated man. There was a slight feeling of bogginess over the upper end of the sternum and adjacent intercostal spaces on the right. On reflecting the soft parts, which were œdematous, tumour was found projecting through the first and second spaces close to the sternum and through the sternum itself. On raising the latter a hard fibrous tumour was found firmly united with it and filling the anterior mediastinum. It formed a hard mass of roughly cubical shape extending from the base of the heart to the level of the episternal notch, and measured at most 4 inches in width, and extended slightly more to the right than to the left of the middle line. The pericardium contained a large amount of clear fluid, increasing its size

greatly: but the heart itself was somewhat atrophied. Tumour projected into the upper part of the pericardium, encircling all the great vessels. The ascending part and arch of the aorta ran like a tunnel through the midst of the hard tumour. It was not materially constricted, but the pulmonary artery and veins were considerably narrowed. The vena cava superior was completely blocked about half an inch above the roof of the right auricle. The stricture was comparatively short, the upper part of the vessel being open. The recurrent laryngeal nerves were looked for, and the left was found. It disappeared into the mass of tumour round the aorta. The right was not found, but the tumour extended round the innominate artery and beyond the bifurcation into the carotid and subclavian in such a way that the nerve must have been included in it. The tumour extended back to the trachea and bronchi, but seemed not to invade them at all. The œsophagus was quite clear of it. The tumour projected into both pleural cavities in front of the roots of the lungs, and there were a number of secondary growths in the left pleura and two or three in the right. The left pleura contained about 2 pints of thin pus, and there was considerable collapse of the lung. The right pleura contained only a slight excess of clear fluid. Both lungs contained a number of white secondary tumours. From the limitation of the tumour in the backward direction it was clear that the sympathetics must have escaped.

Abdomen.—The *stomach* was greatly distended, principally with gas. The pylorus was very narrow, but showed no evidence of old or recent ulceration. *Liver, spleen, and kidneys* were congested, but presented otherwise healthy characters. No other secondaries were found.

Head.—Not examined.

Summary.—Mediastinal tumour—endothelioma. Secondary nodules in pleuræ and lungs. Large empyema.

Microscopic examination.—Endothelioma. The general impression is that of a carcinoma with abundant fibrous stroma and rather large cell masses. The cells, however, have little body and the cytoplasm is very clear, and they are packed together in a manner suggestive of endothelioma rather than epithelial tumour.

The annexed stereoscopic photograph (Fig. 3) shows very clearly the relations of the tumour to the aorta and pulmonary artery.

Here then is a case in which the bulk of the clinical evidence was very decidedly in favour of mediastinal tumour, although the presence of expansile pulsation, recognised repeatedly by the *x*-rays, spoke strongly for aneurysm, and was considered by the radiologist as conclusive in favour of that diagnosis. For malignant tumour were the comparatively brief duration and rapid progress of the case (about thirteen months in all); the cachectic appearance; the loss of flesh, which, although broken by brief periods in which a few pounds were regained, was nevertheless steadily progressive; the absence of definite evidence of pressure upon arteries, while the great veins were severely and increasingly involved; the implication of both recurrent laryngeal nerves, the right usually escaping in aneurysm; the absence, in the earlier stages, of murmur or of any conspicuous alteration of the second aortic sound; and finally, the absence of any history or evidence of syphilis, and the negative Wassermann reaction. For aneurysm were the appearance of a basal murmur, at first transitory and later permanent; the manubrial bulging and slight palpable pulsation which occurred in the last stages; and the constant appearance of an excentrically pulsating shadow on *x*-ray examination. The two former signs might have been consistent with a diagnosis of tumour. As has been already indicated, a tumour narrowing by its pressure the calibre of the aorta might very readily have caused a systolic murmur; such a tumour might have had imparted to it a pulsation recognisable by the examining hand; and it might have produced a bulging in the region of the manubrium. But these signs are at least more commonly associated with aneurysm, and when in addition to them the skiagram revealed that the pulsation was expansile the evidence seemed to be incontrovertible. The final view taken of the case during life was therefore that, however strongly the majority of the facts might point to malignant tumour, and however much the negative Wassermann reaction might militate against aneurysm, aneurysm was in the circumstances the only

a *b* *c*

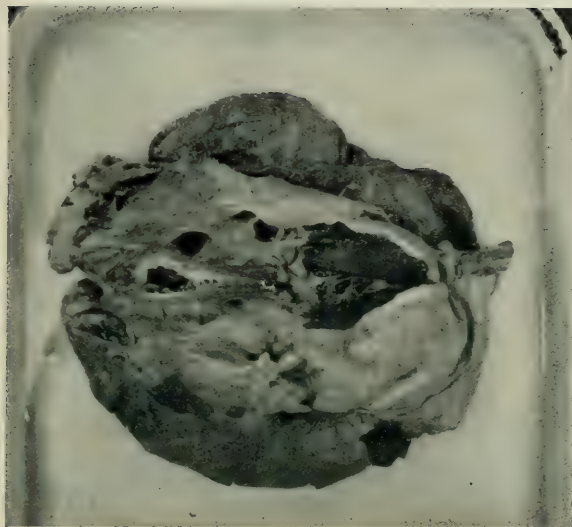
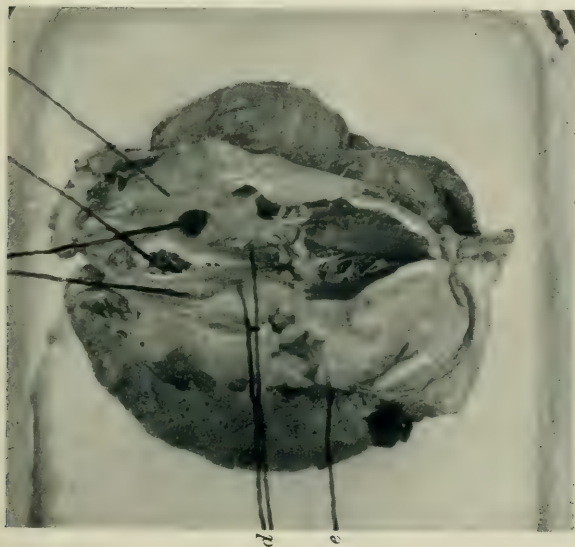


FIG. 3.

ANTERO-POSTERIOR SECTION THROUGH TUMOUR AND HEART.

a, Main mass of tumour; *b*, trachea; *c*, transverse part of arch of aorta, cut open, and completely surrounded but not compressed by tumour; *d*, pulmonary artery, cut open, surrounded and compressed by tumour; *e*, visceral pericardium with small tumour nodules at its upper part.

permissible diagnosis. Yet at the autopsy a malignant tumour was found.

It has been impossible in the stress of other occupations to make a search of the literature for similar instances, but the present case is, if not unique, at all events without a companion in the experience of either of the writers. Expansile pulsation, it is obvious, can be produced only by an excentrically pulsating body, and the relation of a solid tumour to the arch of the aorta is in at least the overwhelming number of cases one of contiguity, not of encirclement. In such circumstances any pulsation would of course occur in one direction only: would be felt, if it were palpable, merely as an upward or a forward heave: and might even escape detection by the *x*-rays. Only the exceptional relation of the tumour to the aorta, which it completely surrounded, without diminishing its calibre, in such a fashion that the pulsation of the enclosed vessels was transmitted to it in every direction, made possible in this case the misleading appearance of this almost exclusively aneurysmal sign.

It is indeed fortunate that such cases are of extreme rarity; were it otherwise the diagnosis of aneurysm from mediastinal tumour, difficult as in many instances it is already, would become even more precarious than it is.

Obituary.

ON SERVICE.

CAPTAIN CHARLES KENNETH M'KERROW, M.B., B.C. CANTAB.,
ROYAL ARMY MEDICAL CORPS.

WE regret to announce that Captain Charles M'Kerrow, of Ayr, was killed in action on 20th December, 1916. He was on his way up to the trenches with his corporal about ten in the morning during a period of heavy shelling, in which both were wounded in the body. He died the same evening. Captain M'Kerrow, who was the eldest son of the late Dr. M'Kerrow, of Ayr, was educated at Cargilfield and Charterhouse, from which he gained the Science Scholarship of his year into Cambridge, and later, an open scholarship at Clare College. Taking at the end of his course a first-class in science, he took the degrees of M.B., B.C. Cantab. in 1908, and afterwards, while house surgeon at St. George's Hospital, London, he qualified as M.R.C.S. and L.R.C.P. Thereafter he continued his studies at Vienna. On his return, some seven years ago, he entered into partnership with his father, helping him with characteristic assiduity in his extensive town and county practice. His father's illness prevented him from joining the R.A.M.C. at the outbreak of war, but in May, 1915, after his father's death, he offered his services, and was attached to the 10th Northumberland Fusiliers, with whom he went to France. The men became greatly attached to him, and often expressed the wish that he would not leave them; and although frequently offered a less dangerous post he held on to the trenches, feeling he could be of most use there. Men said his presence gave them confidence when they went over the top, because they knew he would see the wounded brought quickly in, no matter how difficult the conditions. Since his death many letters have

been received from both officers and men, testifying how in more than ordinary ways he was honoured and beloved by them all. Of these, two only can be quoted here—the first from a R.A.M.C. officer, who says—"It seems such a tragedy that it should be M'Kerrow who is killed—such a ghastly, awful waste, for he stood head and shoulders above the rest of us in the Division. I don't ever remember meeting a man who from the very first impressed me so much with such quiet strength and such ability. The last time I saw him was when he read us a paper on some series of cases he had had under his care out here, and every one, without exception, was most struck with the ability which it revealed, the power of observation and clear thought, and the dogged perseverance in collecting the material for it under the worst possible conditions." And the second is from his servant's wife. "He was more than his [her husband's] officer," she says, "he was his friend. My husband being so much with him as his servant, said he was the finest man that was in France; his sole thought was for the wounded and dying."

Captain M'Kerrow's loss has been much felt in Ayr, where he will be greatly missed, not only because of his outstanding professional ability, but also because of his good comradeship and willingness to help in useful work. He was married two years ago to a daughter of Mrs. Craik, Bramshot, Surrey, and is survived by his young widow and an infant son.

JAMES STIRTON, M.D. ED.,
GLASGOW.

THE death of Dr. James Stirton, which took place on 14th January at his house in Newton Terrace, Glasgow, removes a long familiar figure from the medical circles of the city. Dr. Stirton, who was 83 years of age, was a native of the East of Scotland, and a student of Edinburgh University, where he took a distinguished position in the mathematical classes, and where he afterwards devoted himself to the study of

medicine. In 1857 he took the qualification of L.R.C.S.E., and a year later the degree of M.D. of Edinburgh University. He came soon afterwards to Glasgow, and rapidly acquired a large practice as an obstetrician and gynæcologist. His eminence in these subjects led to his appointment in 1876 as lecturer on gynæcology in Glasgow Royal Infirmary, where for many years he had charge of the wards for diseases of women. In 1889 he became Professor of Midwifery in St. Mungo's College, a position which he held with distinction for about fifteen years. Notwithstanding his busy pre-occupation with his professional duties, he found time for the scientific study of botany, in which, indeed, he was an acknowledged authority, whose many papers, embodying the fruits of his researches, brought him a reputation that extended to the Continent. Many of these papers he published in the *Transactions* of the Natural History Society of Glasgow, of whose council he was a member, and in those of the Royal Philosophical Society of Glasgow. He was one of the chief experts in Scotland in the department of cryptogamic botany, and his publications on this subject brought him the distinction of his being made a corresponding member of the Society of Natural Sciences of Strasburg. He made also numerous contributions to medical literature, many of which have appeared in the pages of this *Journal*. The esteem and affection in which he was held both by his medical colleagues and by the general public were shown by the large attendance at his funeral, among the mourners being many of the most prominent members of the medical profession in Glasgow and the West of Scotland.

WILLIAM LOCH STUART, M.D. GLASG.,
FORRES.

WE regret to announce the death of Dr. W. L. Stuart, which took place at Stronans, Forres, on 7th January. Dr. Stuart, who was in his seventy-sixth year, studied medicine at Glasgow University. In 1863 he took the degree of M.D. Glasg., and in the same year the qualification of L.R.C.S. Ed. Five years

later he became a Fellow of the Royal Faculty of Physicians and Surgeons of Glasgow. He was well known and much esteemed, professionally and personally, in Forres and the surrounding district.

JAMES GOWANS, M.B., C.M. GLASG.,
BROUGHTY FERRY.

WE regret to announce the death of Mr. James Gowans, which took place on 15th January at his residence at Broughty Ferry, after a long illness. Mr. Gowans was a son of the late Rev. James Gowans, of Brechin, and was in his sixty-seventh year. He received his medical education at the University of Glasgow, and took the degrees of M.B., C.M. in 1876. Subsequently he acted as visiting surgeon to the Newcastle-upon-Tyne Dispensary, and as resident physician to the Western Infirmary, Glasgow. He began practice in Broughty Ferry in 1879, and won for himself, through his professional ability and the geniality of his nature, a large practice and many friends.

CURRENT TOPICS.

APPOINTMENTS.—The following appointments have recently been made:—

R. Barclay Ness, M.B., C.M.Glasg. (1887), to be Consulting Physician to the Ralston Home for Paralysed Soldiers.

G. A. Allan, M.B., Ch.B.Glasg. (1905), to be Visiting Physician to the Ralston Home for Paralysed Soldiers.

Royal Navy (9th January): Fleet Surgeon W. Jackson, M.B., C.M.Glasg. (1892), to *Vivid*, additional.

Royal Army Medical Corps (20th December, 1916): To be temporary. Captain—Temporary Lieutenant J. Bain, M.B., C.M. Glasg. (1896).

22nd December: To be temporary Captains—Temporary Lieutenants A. G. Henderson, M.D.Glasg. (M.B., 1912); W. Gemmill, M.B., F.R.C.S.Ed. (Kilmarnock); J. W. M'Donald, M.B., Ch.B.Glasg. (1913); J. R. Craig, M.B., Ch.B.Glasg. (1907); J. A. Harper, M.C., M.B., Ch.B.Glasg. (1912); R. M. Lang, M.B., Ch.B.Glasg. (1915). To be temporary Lieutenants—G. Gordon, M.B., C.M.Glasg. (1889); J. Carrick, M.B., Ch.B.Glasg. (1908); M. H. Bland, M.D.Glasg. (M.B., 1888); W. M. Christie, M.B., Ch.B.Ed. (Shawlands); J. D. Gray, M.D.Glasg. (M.B., 1907).

10th January, 1917: To be Lieutenants, and are granted rank of temporary Captain—Temporary Captain T. L. Fraser, M.B., Ch.B.Glasg. (1911); Captain A. M. M'Cutcheon, M.B., Ch.B.Glasg. (1914), from R.A.M.C., Special Reserve; temporary Captain R. C. Robertson, M.C., M.B., Ch.B.Glasg. (1914); temporary Captain A. C. Jebb, M.B., Ch.B.Glasg. (1914), from R.A.M.C., Special Reserve; Captain W. W. MacNaught, M.B., Ch.B.Glasg. (1911), from R.A.M.C., Special Reserve.

12th January: To be acting Lieutenant-Colonels whilst in command of a Field Ambulance—Temporary Captain (acting Major) J. R. C. Greenlees, D.S.O., M.B.Cantab.; Captain (acting

Major) M. Ross Taylor, M.D.Glasg. (M.B., 1904); Captain (acting Major) K. D. Murchison, M.B., Ch.B.Glasg. (1912).

SPECIAL MEDICAL BOARD FOR SCOTLAND.—The Scottish Command Orders of 18th December contained the announcement that a Special Medical Board had been appointed for duty in Scotland, and was constituted as follows:—President, Colonel H. O. Trevor, A.M.S.; members, Byrom Bramwell, M.D., F.R.C.P.E.; James Hodsdon, M.D., Pres.R.C.S.E. The Board sits in Edinburgh, with headquarters at the Royal College of Surgeons.

WAR HONOURS FOR GLASGOW GRADUATES.—A supplement to the *London Gazette*, issued on 22nd December, contains awards to officers in recognition of services in connection with the campaign in Mesopotamia. Among these officers are the following Glasgow graduates:—

Captain Robert Sweet, M.B., I.M.S. Captain Sweet took the degrees of M.B., Ch.B.Glasg. in 1909, and was in 1910-11 resident physician and resident surgeon in Glasgow Royal Infirmary. His Majesty the King has been graciously pleased to bestow upon him the D.S.O.

Captain Alexander Glen, M.B.Glasg., R.A.M.C. (Special Reserve). Captain Glen, who took the degrees of M.B., Ch.B. in 1913, has been awarded the Military Cross.

Captain J. H. Hislop, M.B., Ch.B.Glasg., I.M.S. Captain Hislop is a graduate of 1908, and has also gained the Military Cross.

Temporary Lieutenant W. G. Macdonald, M.B., Ch.B.Glasg., R.A.M.C. Lieutenant Macdonald, to whom the Military Cross has been awarded, is a graduate of 1905. He was formerly house physician and house surgeon in the Victoria Infirmary, and before the war was in practice in Penrith.

In the New Year's list of honours appeared the names of the following Glasgow graduates:—

Colonel R. L. R. Macleod, M.B., C.M.Glasg., A.M.S. Colonel Macleod, who is a graduate of 1884, is appointed a C.B. He is a D.P.H. of the Royal College of Physicians and a Fellow of the Royal Institute of Public Health.

Colonel W. L. Gray, M.B., C.M.Glasg., R.A.M.C. Colonel Gray, who graduated with commendation in 1885, and is a B.Sc. of Edinburgh University, is appointed a C.M.G.

Captain H. M. Calder, M.B., Ch.B.Glasg., R.A.M.C. Captain Calder, who receives the D.S.O., is a graduate of 1908, and before the war was in practice in Partick.

Captain David Dickie, M.B., Ch.B.Glasg., R.A.M.C. Captain Dickie, who receives the D.S.O., had a brilliant career at the University, where he took the degrees of M.B., Ch.B. in 1903, and three years later he took the F.R.C.S.Ed. Before the war he was assistant surgeon to the Women's Department of the Western Infirmary. He is a son of the Rev. David Dickie, of St. Luke's Parish.

Staff-Surgeon C. E. C. Stanford, M.B., C.M.Glasg. (1898), R.N., Royal Naval Division. Staff-Surgeon Stanford, who receives the D.S.O., is a double graduate of Glasgow, having taken the degree of B.Sc. in 1895. He was a distinguished student who carried off several bursaries and scholarships.

Among the Indian honours, Mr. M. Y. Young, M.B., Ch.B.Glasg. (1906), is appointed to be C.I.E. Mr. Young is chief medical officer to the Anglo-Persian Oil Company, and medical officer at the oil fields of the Persian Gulf.

The three following gentlemen have been awarded the Military Cross:—

Captain T. J. Dun, M.B., Ch.B.Glasg., R.A.M.C. (Special Reserve). Captain Dun, who is a graduate of 1914, is a son of Dr. W. G. Dun, Royal Crescent, Glasgow. He studied at the University of Glasgow and at the Anderson College.

Temporary Lieutenant D. C. Suttie, M.B., Ch.B.Glasg., R.A.M.C., took the degrees of M.B., Ch.B., with honours, in 1909. He is a son of Dr. David Suttie, of Granville Street, Glasgow, and was, until he joined the R.A.M.C., medical superintendent of the Royal Hospital for Sick Children, Glasgow.

Temporary Captain J. M. Young, M.B., Ch.B.Glasg., R.A.M.C., is a graduate of Glasgow University of the year 1914.

In Field-Marshal Sir Douglas Haig's despatch of 13th November, published at the beginning of the year, the following Glasgow graduates receive special mention for "distinguished and gallant services and devotion to duty":—

Colonel W. L. Gray, M.B., C.M.Glasg., R.A.M.C.; Colonel R.

L. R. Macleod, M.B., C.M.Glasg., R.A.M.C.; Captain H. M. Calder, M.B., Ch.B.Glasg., R.A.M.C. The further distinctions which have fallen to these gentlemen are noted above.

Temporary Captain J. A. Conway, M.D.Glasg. (M.B., 1911), R.A.M.C. Captain Conway was in practice in Dennistoun before the war.

Captain W. Fotheringham, M.B., Ch.B.Glasg. (1913), R.A.M.C. (Special Reserve). Captain Fotheringham is a son of Mr. John Fotheringham, M.B.Glasg. (1882), of Motherwell.

Temporary Captain R. M'C. Hill, D.S.O., M.B., Ch.B.Glasg. (1906), R.A.M.C. Captain Hill's previous distinction has been the subject of reference in these pages. Before the war he was in practice in London.

Temporary Captain D. W. Hunter, D.S.O., M.B., Ch.B.Glasg. (1901), R.A.M.C. Before the war Captain Hunter was in practice in Bradford.

Captain D. Macfadyen, M.B., Ch.B.Glasg., R.A.M.C. (Special Reserve). Captain Macfadyen, who is a graduate of 1904, was in practice before the war in Inverness, where he was surgeon and medical electrician to the Northern Infirmary. He was at one time house surgeon and later assistant dispensary physician to the Royal Hospital for Sick Children, Glasgow.

Temporary Lieutenant N. M'Farlane, M.B., Ch.B.Glasg. (1911), R.A.M.C., who has since relinquished his commission, is in practice at Chapelhall, where he holds the post of parochial medical officer.

Captain (Temporary Major) K. D. Murchison, M.B., Ch.B. Glasg., R.A.M.C. Captain Murchison is a graduate of 1912.

Captain A. Picken, M.B., Ch.B.Glasg., R.A.M.C., is a graduate of 1914.

Staff-Surgeon C. E. C. Stanford, M.B., C.M.Glasg., R.N. Staff-Surgeon Stanford's D.S.O. is mentioned above.

MILITARY MEDAL FOR A GLASGOW-TRAINED NURSE.—His Majesty the King has been graciously pleased to award the Military Medal to Staff-Nurse Catherine M. Carruthers, T.F. Nursing Service, whose name appears in a list published on 8th January. Nurse Carruthers, who is the first woman to receive this medal, belongs to Rathmines, near Dublin, and received her training in Glasgow Royal Infirmary. The Military

Medal is conferred on non-commissioned officers, and men and women "for individual or associated acts of bravery, on the recommendation of a Commander-in-Chief on the field."

MEMORIAL TO CAPTAIN RANKEN, V.C.—A memorial which has been erected in Irvine Parish Church to the late Captain Harry Ranken, V.C., M.B., Ch.B.Glasg., R.A.M.C., and Chevalier of the Legion of Honour, was formally unveiled by the Countess of Eglinton at a special service held in the Church on 6th January. The Rev. J. A. McClymont, convener of the Army Chaplains' Committee of the Church of Scotland, delivered the preliminary address. The service was attended by the Earl and Countess of Eglinton, Professor Cooper, Moderator-designate of the Church of Scotland; Colonel Sir Ralph Anstruther, and a large number of friends and townsmen of the late Captain Ranken.

In the course of his address, the Rev. Mr. McClymont touched on the brilliant research work the late Captain Ranken had done in the Soudan in connection with the investigation and treatment of sleeping sickness, and stated that he was at home on leave when war broke out, and at once volunteered for service at the front. The Cross of the Legion of Honour and the V.C. were conferred on him on account of his gallant conduct during operations in France on 21st-28th August and 19th-20th September, 1914, respectively. While attending to wounded under heavy fire a shell almost severed one of his legs from his body. He gave instructions regarding his work, and got combatant officers to bind his own wounds, after which he lay where he fell overnight. On the following day the ground over which he was carried was so rough and muddy that he was twice tumbled out of the stretcher. His remarks then were characteristic of the man. He merely said, "Never mind, boys, I know you are doing your best." When he reached the dressing-station he would not allow his own case to be attended to before others. His leg was amputated in the hope of saving his life, but he sank gradually, and died on 25th September. Before he died, he knew of the honours that were to be conferred on him.

The Countess of Eglinton, in unveiling the memorial, referred to the splendid work achieved by the late Captain Ranken, and to her friendship with him and his parents and brother. On

the following day, Professor Cooper conducted the dedicatory service in the church.

PANEL PRACTITIONERS AND CLERICAL WORK.—At a meeting of the Glasgow and West of Scotland Branch of the Panel Union held in the Central Halls, Bath Street, Glasgow, on 18th December, Dr. Thomas Russell presiding, a discussion took place on the present shortage of medical practitioners, which, it was pointed out, would be increased at the beginning of the year, as more doctors were being called to military service. It was the unanimous finding of the meeting that a considerable amount of medical time and energy was being expended on purely clerical work that could be more profitably utilised in the diagnosis and treatment of disease. Indeed, the panel practitioner often spent more time in clerical work, and in explaining what he was forbidden to do by the Insurance Commissioners, than in the examination and treatment of his patient. Although not designed for that purpose, panel certification hampered and harassed the practitioner, and did not tend to the smooth working of the Insurance Act in the interest of panel patients. It was explained that if a patient called on a doctor on a Friday night and said that he would start work on the following Monday, the doctor could not give him a clearance certificate, but had to make the patient call the next day, and thus cause an unnecessary consultation. If a patient started work on Monday without being first signed off by the doctor he could not get the clearance line on the Monday night, and was thus defrauded out of a just portion of his sick aliment. It was a waste of medical time to command a practitioner to appear, like a malefactor, before a committee to be censured for some trivial breach of panel certification which was made in good faith and in the interest of the panel patient. It was stated that a leading medical practitioner had resigned from the Glasgow panel for treatment of that kind, and others would follow if some appreciation was not shown of the difficulties of panel certification. Medical records also caused a waste of medical time and energy. These records were valueless as vital statistics of disease. If they were for the purpose of showing the amount of work done by the practitioner, then they could be easily suspended during

war-time, for the Insurance Commissioners must know that the healthy insured persons, who gave the doctor no trouble, are away fighting and off the doctors' lists, while the unhealthy ones are left behind and keep doctors busy with chronic ailments.

At the meeting Mr. David H. Battersby, M.A., LL.B., was unanimously elected the secretary to the Union.

BEQUESTS TO MEDICAL CHARITIES: MISS SCHAW'S ESTATE.—The trustees of the late Miss Marjory Shanks Schaw, of 26 Park Circus, Glasgow, have now adjusted the scheme of their first allocation of grants to charitable institutions from the residue of the estate, in terms of Miss Schaw's trust disposition and settlement. The total of the present allocation amounts to £311,500. The largest beneficiary is the Royal Infirmary, Glasgow, which is to receive £100,000—£60,000 to the Infirmary and £40,000 for the Schaw Convalescent Home. To the Western Infirmary £60,000 has been allocated, and the Victoria Infirmary gets £40,000. The Samaritan Hospital, the Sick Children's Hospital, the Maternity Hospital, and the Association for the Relief of Incurables each receive £10,000. Other benefactions to medical and allied charities are as follows:—Royal Glasgow Asylum for the Blind, Glasgow Society for the Education of the Deaf and Dumb, £4,000 each; Higginbotham Sick Poor Nursing Association, £3,000; Glasgow Lock Hospital, Glasgow Ophthalmic Institution, Glasgow Eye Infirmary, Glasgow Royal Cancer Hospital, East Park Home for Infirm Children, Royal Alexandra Hospital (Paisley), Greenock Hospital and Infirmary, Helensburgh Victoria Infirmary, West of Scotland Convalescent Seaside Homes (Dunoon), Kilmun Convalescent Seaside Home, £2,000 each; Glasgow Hospital for Women, Glasgow Women's Private Hospital, £1,500 each; Glasgow Central Dispensary, Glasgow Hospital for Diseases of the Ear, Nose, and Throat; Johnstone and District Cottage Hospital, Dumbarton Cottage Hospital, £1,000 each; Children's Home Hospital, Strathblane; Coatbridge and District Nursing Association, Springburn Sick Poor Nursing Association, Glasgow Day Nurseries Association, Glasgow Association for the Care of Defective and Feeble-minded Children, Royal Victoria Eye Infirmary (Paisley), H. M. R. Ewing District Nursing Association, Kilsyth District Victoria Memorial Cottage

Hospital, Blantyre Cottage Hospital, and Incorporated Glasgow Dental Hospital, £500 each.

ROYAL INFIRMARY: NEW YEAR'S DAY MEETING.—The annual New Year's Day meeting with the nurses of Glasgow Royal Infirmary was held in the institution under the presidency of Lord Provost Sir Thomas Dunlop. Among those present were Sir Samuel and Lady Chisholm, Lady Dunlop, Mr. James Macfarlane, chairman of managers; Sir D. C. M'Vail, Deacon Convener Alexander, the Rev. Dr. John Smith, the Rev. James M'Gibbon, Glasgow Cathedral; Sir William Macewen, Lady M'Onie, Mrs. John T. Cargill, Mr. and Mrs. John Reid, Miss Dow, Pollokshields; and Mr. Peter Rintoul, Mrs. Rintoul, Major Garroway, and the Misses Garroway.

In wishing the nurses of the Infirmary the compliments of the season, the Lord Provost said that during the past year they had been greatly handicapped by so many of the staff being on war service. But notwithstanding this the Royal Infirmary, owing to the enthusiasm for their work on the part of those who remained, still stood out as one of the greatest institutions of the kind in the country. It was a matter for congratulation that their matron and three of the nurses had received the decoration of the Royal Red Cross, and that seven of the nurses on service in France had been mentioned in despatches. They looked forward to another year with hope and confidence. The managers during the past year had been perturbed on account of the great increase in the cost of food, which had brought about a financial state of matters that worried them considerably. The Lord Provost also referred to the special appeal which had been made in the interests of the Infirmary, and to the success that had attended it so far.

Mr. James Macfarlane said that since the Infirmary first opened its gates there never had been a more strenuous year than that which had just passed. In every department they had been working at war pressure, and they had every reason to be satisfied with the results of their efforts. They had been able to create a deeper and more widespread interest in the affairs of the Infirmary, and the result was that many more people were giving financial aid to the institution, while a great number of those who had been giving for many years had

largely increased their subscriptions. As part of the scheme for the bringing of the work of the Infirmary more vividly before the people of Glasgow, they had published the book entitled "The Mansion House." In this connection the thanks of the managers were also due to Dr. Thom, superintendent; Miss Melrose, matron; and members of the staff for the assistance they had given in conducting deputations from the large works in the city over the Infirmary, and showing the visitors the great work which was being done. The result had been that many people who previously had no idea of the Infirmary's valuable services had left determined to do everything they could to increase the support from their respective works. It was of the utmost importance that they should take every opportunity of bringing the claims of that venerable institution, and also of the Western and Victoria Infirmaries, before the citizens of Glasgow. Mr. Macfarlane concluded by giving statistics of the work of the past year. The admissions of soldiers and sailors, he stated, numbered 606, an increase of 107, while 10,183 civilians were admitted, an increase of 191. The number of accidents and urgent cases presented at the gate was 15,879, of which 6,708 were admitted to the wards. It would be seen, he remarked, that the work of the Infirmary was by no means decreasing.

Mr. Timothy Warren, the honorary treasurer, in emphasising the great need for increased financial support for the Infirmary, pointed out that the ordinary expenditure for the past year was £70,750, and that the deficit on ordinary revenue was no less than £32,000. He took the opportunity of expressing the appreciation of the managers for the enthusiastic manner in which the Lord Provost had taken up their cause, and had assisted them in the special appeal they had made for financial support. While the debit side of the account was unfavourable, he was pleased to be able to state that they were not altogether hopeless on the other side. The trustees of Miss Schaw had completed the allocation of the residue of her estate, and the Royal Infirmary was to receive £100,000. Miss Schaw, he recalled, was the founder of the Schaw Convalescent Home erected in memory of her brother, and this further gift, he thought, was a splendid tribute to the work of one of Glasgow's sons, and to Miss Schaw's interest in the home which she

endowed on his behalf, and to the work of the Infirmary. The other infirmaries, he believed, would not be forgotten, and the details of the allocation, he understood, would be published in a day or two. He felt sure the inhabitants of Glasgow would not misinterpret this gift. It was a windfall, and he should be very sorry if by reason of it there was any slackening in the efforts of the community to bring the endowment fund up to £150,000.

The other speakers included the Rev. James McGibbon, the Rev. Dr. Smith, and Mr. J. S. Craig. The proceedings closed with the singing of the National Anthem.

VICTORIA INFIRMARY: NEW YEAR'S DAY MEETING.—The annual New Year's Day meeting of nurses, held in the Victoria Infirmary, was presided over by the Dean of Guild, Mr. Hugh Reid. Among the company were Messrs. William Gray, Dugald McKechnie, Gilchrist, Mason, MacDougall, Mrs. D. M. Alexander and Mrs. Robertson, the Rev. J. McNeill Frazer, the Rev. A. J. Yuill, Dr. Eben. Duncan, Dr. Stewart, and Dr. Leask; Dr. D. O. MacGregor, the superintendent; Miss Campbell, the matron; and Mr. F. Bisset, the secretary.

The Dean of Guild expressed regret at the absence of Lord Rowallan, who was unable to attend. Not only was his health indifferent, but he had suffered severe bereavement by the death of his gallant son. They extended to Lord Rowallan sympathy in his affliction. After wishing the company the compliments of the season, the Dean of Guild paid a high tribute to the nursing profession. It was a vocation which gave the highest opportunity of usefulness and personal service. He referred to the nurses who had gone to serve at the front, and while commending their work he said that the nurses in the home institution were discharging duties as vital to the nation as even those who were serving in the field. In the military and Red Cross hospitals the conditions were more favourable to the nurses than in our permanent institutions. In the former case they were dealing with patients in the prime of life, whose spirits nothing could daunt, while in the latter case the nurses had to combat with a combination of ill-health, disease, and depression, and it required cheerfulness and the most sympathetic nursing to overcome these inherent difficulties in their

work. He suggested that it might be desirable to have girls taught a little nursing in the schools, and those who had sought service in the Voluntary Aid Detachment would have profited by such early training. Our thoughts naturally turned to the war, and we were all wondering when this great Armageddon would come to an end. It was essential to a proper and permanent peace that there should be investigation into the causes which led to the present state of affairs. He expressed the hope that by this time next year we would see at least the beginnings of that peace which we all desired. He concluded by wishing the nurses of the Infirmary and the medical staff all prosperity and success in the noble work they were undertaking.

Mr. Gray conveyed the thanks of the company to the Dean of Guild, and on behalf of the governors expressed thanks to the nurses and staff for their admirable services.

GLASGOW SAMARITAN SOCIETY.—The report of the Glasgow Samaritan Society was submitted at its annual meeting held in the lecture room of the Western Infirmary on 14th December, the Rev. Mr. McGibbon presiding. It stated that the Ladies' Committee visited the wards of the Infirmary every Thursday afternoon, sympathising with and cheering the patients, and giving them temporal relief where home cares and anxieties were pressing. During the year, 116 persons were assisted in different ways, many of them with a sum of 2s. 6d. a week for a month or longer, while others were given sewing to do if they were unable to support themselves in any other way. Mr. D. Norman Sloan submitted the financial statement.

Colonel Roxburgh, in moving the adoption of the report and statement, said he could testify to the esteem in which the managers of the Infirmary held the Samaritan Society. Those who believed in the voluntary hospital, as against a hospital on the rates, did so principally for the reason that in the voluntary institution there was more of the personal touch than there possibly could be in a State-aided hospital. It was in this respect that the Samaritan Society was able to do such good work by taking a personal interest in the patients.

GLASGOW ASYLUM FOR THE BLIND: ANNUAL REPORT.—The ninetieth annual report of the Royal Glasgow Asylum for the

Blind, submitted at the annual meeting of contributors and subscribers on 15th January, was noteworthy for its statement regarding the arrangement made for providing training and after-care for soldiers belonging to Glasgow and the West of Scotland who have been blinded in the war. It stated that at the request of the Incorporated Soldiers' and Sailors' Help Society, the superintendent was instructed to prepare a scheme for dealing, in an efficient and generous manner, with our blinded heroes. The superintendent prepared a very exhaustive report on the subject, which placed all the resources of the asylum at their disposal, and had the great advantage of allowing the soldiers residing in Glasgow and its vicinity to remain at their own homes while under training. The Royal Glasgow Asylum for the Blind was one of the largest, if not the largest, educational and industrial institutions for the blind in the United Kingdom, providing a greater variety of practical industries than any other, having up-to-date buildings and the most modern equipment; and from its position in the centre of the largest populated area in Scotland it was peculiarly well adapted on that account to undertake such work. The facilities thus afforded would not be confined to their period of training only, but would also extend to their after-care. The superintendent had regularly visited blinded soldiers in the hospitals, assisting and helping them, and placing the resources of the asylum at their disposal. Generally speaking, Scotland was better equipped with organisations for the blind than other portions of the United Kingdom. Fortunately, thus far the number of Scottish soldiers blinded in the war was comparatively small, and if each of the institutions looked after the blinded soldiers belonging to their respective districts, no exceptional effort involving wasteful expenditure would be necessary on their behalf.

The report on the ordinary operations of the asylum showed that 342 blind persons, practically the same number as in the previous year, were educated, maintained, and employed. The managers had decided upon an extension of the benefits of the institution, which they had been deterred from adopting hitherto by financial considerations. They had resolved to admit applicants other than those from their own school as circumstances might warrant, and trusted that this policy might

be approved of and supported by the public giving larger subscriptions. The total amount earned by the blind workers in the industrial department was £3,703, 19s. 7d., and to that sum £4,021, 4s. 9d. was added from subscriptions and extraordinary income, to make up the payments in wages. In addition, the wages to blind collectors, salaries to blind teachers, and sundry charitable grants amounted to £1,352, 7s. 5d., making in all the sum of £9,077, 11s. 9d. paid directly to blind persons connected with the institution. Inclusive of extraordinary income, the capital depreciation for the period under review amounted to £1,105, 16s. 3d., a sum which emphasised the need for additional revenue.

BROOMHILL AND LANFINE HOMES.—At the annual Christmas dinner given to the patients at Broomhill and Lanfine Homes, Mr. James Macfarlane, chairman of the House Committee, presided, and among others present were Sir Samuel and Lady Chisholm, Dr. Yellowlees, Dr. Wallace Anderson, the Rev. John Tainsh, and several of the directors. The chairman, in the course of his remarks, made the interesting announcement that, at the request of the directors, permission had now been given to disclose the identity of the anonymous donor of the extension of Lanfine Home, opened six years ago. The building was the joint gift of the late Mr. Leonard Gow, LL.D., and Dr. Yellowlees, chairman of the association, and the wards were fully furnished by Mr. J. Barnett Gow, one of the directors.

CO-OPERATION OF TRAINED NURSES.—The annual meeting of the Glasgow and West of Scotland Co-operation of Trained Nurses was held on 23rd November, 1916, in the Charing Cross Halls, Glasgow, under the presidency of Lady Stirling-Maxwell. In their report for the past year the Executive Committee stated that the object of the Association was to supply to the public fully qualified nurses, and at the same time to secure to nurses on the staff regular employment, adequate remuneration, and the advantages of a regular home. At present there were 169 nurses on the roll of the association. The number of cases attended during the year was 1,726, and the amount earned by the nurses £12,829. Since the establishment of the Co-operation in 1894, 33,721 cases had been nursed and £211,417 had been

earned. Over 80 nurses were on war service. This had meant financial sacrifice both to the nurses and to the home, the remuneration for Army nursing being considerably less than a nurse could earn at private cases on the staff of the Co-operation.

In moving approval of the report, Professor Glaister referred to the progress which was being made in connection with the movement for the registration of nurses.

Dr. David Newman, who seconded, pointed out that while fully 50 per cent of the nurses were on war service, the Co-operation had been able to maintain their staff both in regard to numbers and quality.

The report was adopted.

WEST OF SCOTLAND SANITARY ASSOCIATION.—The annual meeting of the West of Scotland Sanitary Association was held on 24th November in the Religious Institution Rooms, Glasgow, Mr. Hugh Reid, Dean of Guild, presiding. The council stated in their report for the past year that while the war had militated against the work of the Association, the engineering staff had been usefully employed in Glasgow and the neighbourhood and also in many other parts of the country in connection with drainage schemes, sewage disposal, heating and ventilating of buildings. The council impressed upon members and the public generally that it was false economy to dispense with sanitary precautions. An annual inspection of the home or temporary residence was of the utmost importance. Many people were satisfied with an occasional inspection, and did not realise that drainage and piping in a modern house were liable to interference from comparatively trivial causes which might have serious consequences.

The report was adopted on the motion of the chairman, seconded by Mr. R. Easton Aitken.

LITERARY INTELLIGENCE.—Messrs. Baillière, Tindall & Cox announce that they have in preparation for early publication a work which will be of extreme interest and value to those who have under their care, not only civilians, but soldiers who have been physically broken in the wars. It is entitled

Physical Remedies, and presents, in a convenient form, the information which is necessary for practical treatment by mechanical apparatus, exercises and medical gymnastics, heat and cold in baths, by electricity and radiation, by massage, as well as by medicinal waters in the British health resorts. The author is R. Fortesque Fox, M.D.Lond., M.R.C.P., M.R.C.S. The same publishers are issuing within the next few weeks a work for general practitioners, giving all the important points for the study of the endocrine glands, entitled *The Organs of Internal Secretions: Their Diseases and Therapeutic Application*. The author is Ivo Geikie Cobb, M.D., M.R.C.S.

RED CROSS SOCIETY: SCOTTISH BRANCH.—Our last notice of the work of the Scottish Branch of the Red Cross Society brought the record of its proceedings down to the end of September. During the last quarter of the year the Branch still further widened the scope of its benevolent activities. An account of the work of the Red Cross ambulances in Glasgow was given early in October by Mr. John T. Cargill, who presided at a meeting held in the Central Hotel for the purpose of organising a *matinée* to raise funds for the purchase of motor ambulances for use in the Glasgow area. He stated that up to 30th June last the Glasgow transport had carried over 160,000 patients and travelled over 300,000 miles, and that for the period commencing 1st July, consequent on the forward movement at the front, the demands upon the transport had been greater, and the numbers carried had been much in excess of the average up to the date named. The transport department in the Glasgow centre had since the outbreak of war evacuated nearly 250 hospital trains arriving in the Central or other stations in Glasgow, and owing to the fact that the great majority of these arrive during the night, the public were unaware of the continuous work of the ambulance vehicles, and the almost nightly procession of cars between the stations and the central hospitals in and around Glasgow. Three heavy ambulance trains were arriving that evening in Glasgow and Greenock, and the transport department would have close on 500 patients direct from the Somme front for transfer to the local hospitals. During the meeting numerous donations were intimated, and it was evident that the *Matinée* Committee

would be enabled to hand the Society funds sufficient for the provision of at least half a dozen motor ambulance vehicles.

Subscriptions intimated on 7th October included a sum of £1,000, being the amount allocated by Biggar Farmers' Club out of the total proceeds of their free-gift sale, and a sum of £800, being the proceeds of a free-gift sale held at Linlithgow by the West Lothian Agricultural Society. A sum of £520 was received as part proceeds of a garden fête held at Lockerbie (per Lady Buchanan Jardine), and a sum of £230, 19s. 6d., being the proceeds of a war funds cattle show held at East Kilbride. A sum of £129, 4s. 10d. was contributed by Margaret Chapter No. 17, Springburn, being the proceeds of a whist drive, and £100 was received from Messrs. James Calder & Co., Limited, Bo'ness.

On 14th October the Headquarters Organising Clothing Committee of the Branch, St. Andrew's Halls, Glasgow, intimated that during the past week 4,229 garments were received from Scottish Red Cross work parties, and during the same period 15,041 garments were despatched in requisitions to hospitals abroad and in Scotland. The Scottish Branch had undertaken to send large regular monthly consignments of clothing and comforts for the sick and wounded in Mesopotamia at the request of Sir Edward Ward, the Director-General of Voluntary Organisations, and also regular supplies of these articles to the Organisation Directrice of all the Belgian Military Hospitals under General Melis, Inspecteur-General, Service de Santé, Armée Belge.

Subscriptions intimated on 17th October included sums of £1,205 from members of the Glasgow Shipowners' Association and £800 from the Trinidad and Tobago Branch of the British Red Cross Society. A sum of £221 was received from the proceeds of a gala day held at Kilbirnie, and £125 from the West of Caithness Red Cross Unit of the Caithness County Branch. A further sum of £100 was received from the Albion Motor Car Company, Limited (war vehicles subscriptions). It was announced on this date that a convoy of motor ambulances, consisting of 25 ambulance cars, a repair waggon, a kitchen car, and an x-ray car, had been given by the Scottish Branch of the British Red Cross Society to the Roumanian Government. This gift had been made from funds contributed by Scottish

miners and coalowners to the War Fund of the Scottish Red Cross Branch, and had been gratefully accepted by the Roumanian Government. The *x-ray* car accompanying this convoy was the latest of six which the Branch had supplied for use in the field, three of these being given for use with the British troops in France, one to our French Allies, and one to the Russians.

A bazaar in aid of the Airdrie and New Monkland Branch of the Red Cross Society was held on 20th and 21st October, and the total drawings, including donations, amounted to £3,556. A flower show and sale, held by the Glasgow and West of Scotland Horticultural Society in aid of Red Cross and war funds, realised £425, of which the directors allocated £280 to the Branch, £69, 5s. 1d. going to the Scottish Hospital in Paris, and £210, 14s. 11d. to the general purposes of the Branch.

Subscriptions received towards the end of the month included £500 from the ladies of the Merchants' House Work Party of Glasgow for the Orthopædic Section of the Scottish National Red Cross Hospital. Further contributions of £272, 7s. 8d. were received from the County of Renfrew European War Relief Committee, and £200 from the Scottish Teachers' Fund for War Relief. Shawlands Bowling Club contributed £100 for the naming of two beds; a sum of £150 was the free proceeds of a fête day and entertainment of wounded soldiers by the Whitecraigs Golf Club; and a sum of £502, 1s. 2d. was received as the result of the sports held by the staff of the Singer Manufacturing Company, Limited, at Clydebank. The Marine Engineers' Club of China, per the St. Andrew's Society of Shanghai, sent a contribution of £100, and a further sum of £104, 18s. 7d. was received from the St. Andrew's Society of the City of Albany, New York. The Ayrshire Branch provided a sum of £100 to name two beds at Ralston Hospital for Paralysed Soldiers and Sailors.

On 30th October Bellahouston Hospital was visited by ex-King Manoel of Portugal, accompanied by Sir George Beatson, Mr. Nicol Paton Brown, Mr. Campbell, Colonel Jones, and Major Stiles. He inspected the operating theatre, several of the wards, and the orthopædic department, which is now approaching completion, and in which he expressed himself as specially interested. He said, in reply to Sir George Beatson's

words of thanks for his visit, that he was very glad to see that in Scotland so much interest was being taken in that important new branch of the medical service. He desired to emphasise, as he had done at Aberdeen, the importance of establishing workshops for manual curative treatment, such as had been successfully inaugurated at Hammersmith. These would be a kind of supplement to orthopædic departments, and would be of great value from a social as well as a military point of view. It was easier to get men fit by natural than by artificial treatment, and, by means of treatment in such workshops as he had in view, men who were discharged from the army would be in a much better position when they returned to civil life. The establishment of workshops for manual curative treatment would be of great value to the nation, and he believed it would be of great advantage to Scotland if they could have one in Aberdeen, another in Glasgow, and a third in Edinburgh.

November opened with the announcement of a preliminary grant of £200 from the Glasgow United Fleshers' Society to start the movement in favour of the Scottish Meat and Allied Trades' Red Cross Fund. On 4th November a flag day was held throughout Scotland in aid of our wounded soldiers. It was organised by the Scottish Branch of the British Red Cross Society, and was part of the larger movement known as "Our Day." The proceeds, by urgent request of the War Office, were devoted to the provision of a fleet of motor ambulance boats for service in the Near East. The money collected in Glasgow amounted to £2,322; Edinburgh contributed £1,400; and in the Glasgow district the following sums were realised:—Milngavie, £72; Cambuslang, £51, 2s.; Newton and Hallside, £16, 6s.; Rutherglen, £74, 12s. 6d.; Hamilton, £120; Stonehouse, £33; Dalserf Parish, £120, 3s. (including a donation of £55 from Lord and Lady Newlands); Helensburgh, £124, 7s. A free gift sale held in the Parish Hall, Killearn, on the same date, realised £213, 15s. for the Red Cross funds. A *matinée* given in the Pavilion Theatre, Glasgow, under the direction of Mr. James Wilson, of Colquhalzie, for the provision of Red Cross motor ambulances for the conveyance of wounded soldiers to hospitals in Glasgow, was notable for the sale of a letter by Lord Kitchener to Mr. James Sexton, general secretary of the Liverpool Dockers' Union. The total amount realised by the

letter was £1,155, the final purchaser being Mr. John T. Cargill, who intimated his intention of presenting it to the Corporation of Glasgow. A sketch by Mr. D. Y. Cameron, also put up to auction, realised 200 guineas. The total sum realised by the *matinée*, the sale of the letter and sketch, collections at the theatre in the preceding week, collections on the tramways, &c., was £7,150. At the close of the proceedings, Mr. John T. Cargill, convener of the *Matinée* Committee, formally handed over twelve motor ambulances which had been provided out of the proceeds, and these were accepted on behalf of the Red Cross Society by Mr. R. J. Smith, convener of the Transport Committee, and Mr. W. G. Anderson, treasurer of the Scottish Branch.

The monthly report of the Central Store for surgical dressings in connection with the Branch was issued on 8th November, and stated that during October, 102,593 bandages, dressings, and splints were despatched to hospitals at home and abroad, and in addition 821 packets of cotton wool, lint, &c., were despatched. During the same period the Central Store received the following consignments:—From the War Hospital Supply Dépôt, 22 Burnbank Terrace, 32,000; from the War Hospital Supply Dépôt, 13 St. John's Road, Pollokshields, 22,000; from the Sphagnum Moss Dépôt, Spoutmouth, Glasgow, 3,500; from the North-Eastern District Dépôt, Aberdeen, 22,000; from the Central Eastern District Dépôt, Dundee, 1,200; and from the Maxwelltown Auxiliary Hospital, Dumfries, 200. In addition to the despatches from the Central Store, consignments were despatched from the dépôts at Dundee, Aberdeen, and Perth. A donation of £500, in goods at cost price, was received from the Scottish Co-operative Wholesale Society, Limited.

The annual general meeting of the Bute Branch was held at Rothesay Castle on 8th November, the Marchioness of Bute presiding. Ex-Bailie Hill, hon. secretary, submitted a detailed report of the work done throughout the year, and mentioned that something like 12,000 finished garments had been turned out, in addition to 682 supplied to those in the Mountstuart Naval Hospital. The financial statement for the year ending 31st August was submitted by the hon. treasurer, Mr. George Smith, and showed the amount raised to be £1,745, 1s. 11d.,

leaving a credit balance on hand of £458, 8s. 9d. In the course of some incidental remarks it was mentioned by Ex-Bailie Hill that a sum of about £650 had been spent among Rothesay shopkeepers for the supply of materials, and that nothing was bought outside of Rothesay except goods that could not be got locally.

On 9th November the Headquarters Organising Clothing Committee intimated that since 1st November they had despatched 29,254 garments to military hospitals, including the following:—No. 46 Casualty Clearing Station, No. 49 Casualty Clearing Station, No. 44 Casualty Clearing Station, No. 23 Ambulance Train, Hospital Militaire Belge, Bon Secours, Rouen; No. 11 Stationary Hospital, Rouen; No. 26 General Hospital, Etaples; No. 13 Stationary Hospital, Boulogne; Ospedale da Guerra 38, per the Presidente Consorzio, Portuario, Genoa; No. 3 combined Field Ambulance, Nasiriyeh, Mesopotamia; and a large requisition to be distributed by the Red Cross Commissioner, Busra, for the wounded from Mesopotamia. The garments included 8,446 pairs socks, 2,491 mufflers, and 556 helmets. The committee made an urgent appeal for further garments of the same kind, and for pyjamas, bed jackets, and bed socks.

On the same date an auction sale of live stock and farm produce took place at Airdrie, in continuation of the Red Cross bazaar sales there, which had already brought in £3,663, 18s. The sale was expected to bring the total up to £4,000. A week later the Red Cross Game Depôt acknowledged the receipt of many valuable gifts of game, which it had distributed among its various hospitals. On 24th November it was intimated that the branch had provided from the Scottish Miners' Red Cross Fund five motor ambulance boats for service in Mesopotamia. These boats, which formed part of a convoy provided by the British Red Cross Society, were to be maintained by the Scottish Branch. They were named after the leading coalfields in Scotland—viz., Lanarkshire, Fife and Clackmannan, the Lothians, Ayrshire, and Stirlingshire.

Among subscriptions intimated at this time was included a sum of £10,881, 19s. 9d., being the amount handed over by the Countess of Eglinton and Winton to the chairman of the War Executive, as the proceeds of what has been called "The

Ayrshire Push." Among other subscriptions were included sums of £335 from the County of Renfrew European War Relief Committee, and of £260 from the proceeds of a fancy fair held by the ladies of St. Andrew's Church, British Guiana. Sums of £100 were received from Langside Public School, Glasgow, and from the directors, officials, and staff of the Scottish Legal Life Assurance Society. It was intimated at Wishaw Auction Mart that Mr. Pettigrew, Bogside Farm, had offered to give for the funds of the Red Cross Society the produce of 12 acres of corn next year, provided that other farmers would make up an equal amount (at present prices the 12 acres would yield from £150 to £180). The response was such as easily to ensure the gift from Mr. Pettigrew.

Further subscriptions were intimated at the beginning of December. They included sums of £800 from "Sugar and Allied Trades," of £450 from Dunfermline, and of £425 from the Scottish Home Timber Merchants, in addition to a motor ambulance. A further sum of £100 was received from the British Dyewood Company, Limited, and a similar sum was received for the maintenance of the two "Tranent" beds, per Miss M'Walter. A sum of £50 was received from the Daman-sara (Selangor) Rubber Company, Limited.

The Headquarters Organising Clothing Committee intimated that during the past week 34 requisitions were despatched from the headquarters store in Glasgow, containing 13,300 garments and comforts—13 requisitions of which were sent at the request of the Director-General of Voluntary Supplies at the War Office, London, to hospitals and casualty clearing stations in France; and it informed all Red Cross work parties that owing to their hard work and the splendid support they had given the Red Cross throughout Scotland the committee had been able to send out during October and November the enormous number of 97,795 garments and comforts where they were urgently required.

At a largely attended meeting of the French Academy held at the Palais D'Orsay, Paris, on 30th November, on the occasion of St. Andrew's Day, Dr. Bonnet thanked the generous Scottish Branch of the British Red Cross for the assistance lavished on the French wounded from the Somme and Verdun under the high patronage of Princess Louise.

The annual general meeting of the Milngavie Red Cross Society was held on 1st December. Mrs. Higginbotham, honorary secretary, in her report referred to the work of financing, organising, and equipping Craigmaddie Auxiliary Hospital, and said that funds had been collected amounting to £533, including £75 from Bearsden Red Cross Society. Grants of £100 each for equipment were received from the Red Cross Headquarters, Glasgow, and from the Dumbarton County Branch. Mrs. Jackson, treasurer, reported that the total income for the year was £148, 15s. 1d., and the expenditure £97, 12s. 0½d., leaving a balance of £51, 3s. 0½d. Colonel John M. Denny, in moving the adoption of the reports, said that there were now five Red Cross hospitals in the county of Dumbarton—viz., Hermitage (50 beds), Dumbarton (30), Kilcreggan (25), Gartshore (50), and Craigmaddie (42).

On the same date an Active Service Exhibition on behalf of the funds of the Scottish Branch was formally opened in the M'Lellan Galleries, Glasgow, Lord Provost Sir Thomas Dunlop presiding over a large and representative company. The Duchess of Montrose performed the opening ceremony. The exhibition, which was organised by the proprietors of the *Daily Mail*, closed early in January, was extensively patronised during its stay in Glasgow, and should result in a large addition to the funds.

On 4th December the honorary treasurer of the Branch intimated a subscription of £3,000, being the first instalment of the workmen's contribution from the Coalowners' and Coalworkers' Dennis Bayley Fund for the provision of motor ambulances. An instalment of £175 on account of the proceeds of the Clara Butt-Rumford concert was also intimated. The November report of the Central Store for surgical dressings showed that during that month 42,951 bandages, dressings and splints had been despatched from the store to hospitals at home and abroad, together with 966 packets of cotton wool, lint, &c. During the same period 32,482 articles were received at the central stores from work parties and depôts, and 17,210 articles at the War Hospital Supply Dépôt, Pollokshields, Glasgow. Among subscriptions intimated on 11th December were included a further sum of £692, 14s. 3d. from the Scottish Bowling Association, and £101, 7s. 7d., being the entire proceeds of café

chantant and produce sale held in Colinton on 2nd December. The honorary treasurers also received £77, 19s. 10d., being the balance over of the amount devoted by Mr. and Mrs. Andrew Carnegie of Skibo towards entertaining the children on their estate. A sum of £52, 6s. has been received from the Ladies' Auxiliary of the Caledonian Club of Philadelphia, £50 from the Ceylon and Indian Planters' Association, Limited, and a further sum of £45 from Kildalton Women's Guild.

Further subscriptions intimated on 20th December included sums of £200 from the Morayshire Branch, £192, 14s. from the employers and employees of the Glass Bottle Trade of Glasgow, sum of £100 from the Scottish Teachers' Fund for War Relief and from the Coatbridge Branch, and a sum of £80 from the British Women's Temperance Association. A sum of £60, 13s. 8d. was allocated to the Branch from the proceeds of a sale held in the hall of Adelaide Baptist Church, Glasgow, and a sum of £45, 16s. 3d. from the proceeds of a sale at Coldingham United Free Church. A "bring-and-buy" sale and concert organised by Mrs. Russell Ferguson realised £55. On 29th December the honorary treasurer intimated a subscription of £1,500 from the trustees of the late Sir Charles Cayzer, Bart., for the cost of equipment of Ralston Hospital. A further sum of £250 was received from the Merchants' House of Glasgow, and a sum of £202 15s. from Messrs. J. & J. Marshall, auctioneers, Carluke, being the proceeds of a gift sale.

A free-gift sale organised by members of the Lower Ward of Renfrewshire Agricultural Society on behalf of the funds of the Branch, the Hospital for Limbless Sailors and Soldiers, and the Scottish Women's Hospital, was held on 29th December in Greenock. Lord Inverclyde was chairman at the opening ceremony, and announced that up to that time the secretary had already received in money upwards of £450. The total proceeds amounted to about £1,150.

The Kilmarnock Public Library Committee on the same date unanimously agreed to grant an application by the military authorities for the use of the Dick Institute as an auxiliary Red Cross hospital. The hospital was to be confined to the ground floor, and would give accommodation for over 100 beds, the Public Library being temporarily accommodated in the Art Galleries, which belonged to the Corporation.

REVIEWS.

Collected Papers on Analytical Psychology. By Dr. C. G. JUNG. Authorised Translation by Dr. CONSTANCE E. LONG. London: Baillière, Tindall & Cox. 1916. (12s. 6d. net.)

IN this volume there are brought together a number of papers published by Dr. Jung during the past fourteen years. At first an ardent supporter of the Vienna School of Psycho-analysts, fathered by Freud, Jung has in recent years so modified his views that he has come to be recognised as the head of a rival school in Zurich. To quote from the author's preface, "The Vienna School takes the standpoint of an exclusive sexualistic conception, while that of the Zurich School is symbolistic. The Vienna School interprets the psychological symbol semiotically, as a sign or token of certain primitive psycho-sexual processes. Its method is analytical and casual. The Zurich School recognises the scientific feasibility of such a conception, but denies its exclusive validity, for it does not interpret the psychological symbol semiotically only, but also symbolistically, that is, it attributes a positive value to the symbol."

Amongst neurologists and psychiatrists in this country, both these schools have found staunch supporters and also strong opponents. The majority are willing to allow a certain degree of "scientific feasibility" to the doctrines of each, but refuse to admit "exclusive validity" to either the one or the other. The comparative coldness with which the views of Freud and his followers have been received here is due to the preponderating influence which they attribute to psycho-sexual processes in the pathogenesis of the neuroses and psychoses. Primitive psycho-sexual processes in the adult are degenerative phenomena, and, knowing what we do of the psychology of the Teuton, individual and nation, it need not, after all, give occasion for surprise if such conditions are so frequently met with amongst the patients of Freud and his associates that volumes may be

filled with their analytical details. To Freud, however, and his followers we owe some thanks for having drawn our attention to improved methods of analysis of mental contents. After all, psycho-analysis is as old as the hills, although modern methods have added enormously to its value as an aid to the understanding of mental phenomena. In this respect, Jung's collection of papers is to be welcomed, notwithstanding the fact that extreme Freudians, like Ernest Jones in this country, object to Jung styling himself a psycho-analyst. Jung states his views clearly and with moderation. The papers have been well written and excellently translated. Chapter II gives an excellent account of "The association method"; Chapters VII and VIII, on "Psycho-analysis"; Chapter IX, "On some crucial points in psycho-analysis"; Chapter X, "On the importance of the unconscious in psycho-pathology"; and Chapter XII, on "The psychology of dreams," give one a good compendium of the uses, aims, and *rationale* of psycho-analysis.

Transactions of the American Surgical Association. Vol. XXXIII. Edited by JOHN F. BINNIE, M.D. Philadelphia: W. J. Dornan. 1915.

THIS volume of *Transactions* contains the papers read before the Association at the meeting in June, 1915, and the discussions thereon. The meeting was under the presidency of Dr. G. E. Armstrong, of Montreal, and in his presidential address he set himself to answer two questions—What part do surgery and medicine play in modern warfare? Have the means of saving life kept pace with the amazing development of those agencies used in war to destroy life? Dr. Armstrong answers by declaring that "medicine . . . has not only reduced the death-rate from wounds, not only lowered the mortality-rate by the utilization of the principles of sanitary science and preventive medicine, not only insured the recovery of the sick and wounded by modern principles and methods of treatment in both medicine and surgery, but it has accomplished another great achievement, . . . it has raised the *morale* of the army and navy. It has given the men zeal, courage, hope,

and confidence." He concludes a thoughtful and appropriate address with Oliver Wendell Holmes' lines on the attitude of medicine to war—

" Along the front no sabres shine,
No blood-red pennons wave ;
Its banner bears the single line,
' Our duty is to save.' "

Passing to the papers we find as usual series on certain subjects and individual communications on others. Various of the surgical aspects of typhoid fever are considered in one of the series, while splenic surgery is brought into prominence in another. Of the individual papers we find, among others, articles on bone and joint disease in relation to typhoid fever; mesenteric thrombosis; the literature of fractures; various diseases of the breast; gall-stone disease, &c. To judge from the present *Transactions*, the Association is in a virile condition, and students of surgery are indebted to the editor for a volume containing many interesting contributions from the wide field of present-day surgical practice.

The Structure of the Fowl. By O. CHARNOCK BRADLEY, M.D., D.Sc., M.R.C.V.S. London: A. & C. Black, Limited. 1915. (3s. 6d. net.)

TEXT-BOOKS of zoology or of veterinary anatomy are, from the point of view of the undergraduate, necessarily unsatisfactory in that the authors must concern themselves with many phyla or, at best, classes, and therefore dispose of the individual animal in a very few lines. The student is thus thrown back for special description on such a work as this in which Dr. Charnock Bradley sets out to deal with the structure of the domestic fowl as a subject complete in itself. Since the study of pathological conditions must be founded on a knowledge of the normal, the object has been to provide a manual which should give an adequate account of such without overmuch elaboration. An interesting introductory chapter sketches the remote and immediate ancestry of the fowl, and the author then proceeds to deal with its anatomy according to the scheme

of division into systems. The aim of conciseness is carried on throughout, and although there is a complete absence of burdensome detail we cannot detect that anything of even subsidiary importance for the student's purpose has been omitted. The descriptions are aided considerably by copious clear illustrations, diagrammatic, photographic, and microphotographic. There is a short but good index, the type is large and the whole production does credit to the publishers. Dr. Bradley's book appears at a peculiarly opportune time, when attention is being focussed on our home capacity for raising foodstuffs, both plant and animal, and when as a natural outcome public interest is being devoted more and more to veterinary science.

First Aid to the Injured and Sick. By F. J. WARWICK, M.B., and A. C. TUNSTALL, M.D. Ninth Edition. Bristol: John Wright & Sons, Limited. 1915. (1s. net.)

THIS little work on *First Aid* is the text-book of the St. John's Ambulance Association. Eight earlier editions have so familiarised teachers and students of the subject with the good qualities of the book as to render unnecessary any remarks from the reviewer. We may, however, assure prospective students that all they require to know of first aid, put in an easily assimilable form, is to be found in "Warwick and Tunstall's."

Questions on First Aid to the Injured and Sick. By F. J. WARWICK, M.B. and A. C. TUNSTALL, M.D. Bristol: John Wright & Sons, Limited. 1915. (6d. net.)

THIS book of questions is based on the matter contained in the authors' manual of *First Aid*. The chapters of the text-book are taken separately, questions set on them, and the pages where the answers are to be found indicated. The collection of questions should prove very useful to students for testing their knowledge of the subject, and to examiners for suggesting suitable queries.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

OBSTETRICS AND GYNÆCOLOGY.

Causation of the Naegele and Robert Pelves. By D. Berry Hart (*Edinburgh Medical Journal*, January, 1917).—The author gives his theory of the causation of these deformities. In the first of these one sacro-iliac joint is ankylosed with a corresponding lack of development of the affected side of the pelvis, while in the Robert pelvis both joints are ankylosed with a narrowing of the transverse diameter of the pelvis. This ankylosis has commonly been ascribed to an ostitis or to an inflammation in the joint, and this condition is found in the so-called pseudo-Naegele and pseudo-Robert pelves respectively. In this last, however, the bones have not been stunted to the same extent, and the narrowing of the pelvis is much less marked than in the true form. In his original paper of 1832, Naegele ascribed the deformity to a developmental cause. Matthews Duncan ascribed such deformities to pressure; but such causes should also act in male pelves, and such deformities are not found. Dr. Hart seeks an explanation in the work of Mendel and of Weismann. Thus, Mendel demonstrated that plants and animals may be regarded as made up of autonomous unit characters, which in ordinary transmission do not blend but are sifted out in probability ratios, and are passed on unaltered as such. Unit characters cannot be "corrected," but turn up in transmission as they were—a handicap to the Eugenists. Mendel also established that the contracted qualities were distributed in a probability ratio according to the number of contracted qualities selected. An "organ" such as the ala sacri has several unit characters—size, bone-substance, and so on. When these are all concentrated we get a normal wing of the sacrum.

Dr. Hart then extends Mendel's conception of the autonomous unit character in the adult to the causal structures in the chromosomes—Weismann's determinants. These are protoplasmic electrons, also autonomous, and in the chromosomes. By the mitotic changes of chromosome divisions we get continuous variations according to a probability law: by the formation of the gametes we get discontinuous variations, for in the formation of the gametes half of the chromosomes are thrown out so that the zygote or fertilised ovum, formed by the junction of the two gametes, contains the same number of chromosomes as the original sperm- and germ-cells. The half of the chromosomes thrown off are probably ancestral, the half retained immediate ones but not completely, so

that by the retention of a few ancestral ones among the immediate we get atavistic phenomena. We thus see how the Naegele deformity may be an antenatal occurrence. As to the cause of the ankylosis which is found, Dr. Hart goes on to explain that when a unit character is lost, such as a segment of bone, the basis of this segment is often found ankylosed. Thus, where a phalanx of a finger is lost, the cartilage representing it is found ankylosed to an adjacent bone. Another example may be found in the atlas and axis, where the first vertebra loses its body, which becomes ankylosed to the second.

The conclusion, therefore, is that the forms of the Naegele and Robert pelves are the result of polar losses of the size elements of the ala sacri and innominate bones, due to the maturation of the sperm- and germ-cells. In these, a loss of ala sacri and innominate determinants has occurred, a great rarity, more often a unilateral loss (Naegele) than a bilateral one (Robert). As this is a germ-plasm change, and multiplication of the reduced element occurs, it may be transmitted.

—E. H. L. OLIPHANT.

DISEASES OF CHILDREN.

Frequency of Hereditary Syphilis. By F. S. Churchill and R. S. Austin (*Amer. Jour. Diseases of Children*, October, 1916).—In this paper the authors remark on the different statistics from various sources regarding the frequency of congenital syphilis, and point out that it is due not only to the different material utilised for investigation, but also to the varying criteria used for making a diagnosis. In America it has been estimated that 2 to 6 per cent of all hospital children are syphilitic. On the Continent the proportion is put at 3·3 to 5·7 per cent; while in Scotland (Glasgow) the incidence has been placed as high as 10 to 14 per cent. In 1912 Churchill published in the same journal a series of 102 infants with 39 positive Wassermann reactions, but in view of recent experience with this reaction he decided to reinvestigate the question. Now he uses as his criteria for making a diagnosis of syphilis either a strongly positive Wassermann reaction or a weak positive reaction plus a history of the disease, and when he reviews his former material comes to the conclusion that only 5 per cent of the cases can be considered syphilitic. He also publishes in this paper a further series of 695 children under 12 years of age, taken just as they entered hospital. In this series family history, the Wassermann reaction, and luetin reaction were all taken into consideration, and he concludes that only 23 (or 3·1 per cent) were definitely syphilitic, and 5 (or 0·7 per cent) suspiciously so. Under the discussion of the luetin test they state that in 170 cases examined (161 non-syphilitic and 9 syphilitic) a positive reaction was obtained in 1 of the syphilitic cases and 4 of the non-syphilitic cases, and that this particular test was of little diagnostic value in their series.—LEONARD FINDLAY.

A Comparison of the Luetin and Wassermann Reactions in Infancy and Childhood. By L. R. De Buys and J. A. Langford (*Amer. Jour. Diseases of Children*, October, 1916).—The following are the authors' conclusions from a fairly extensive experience of these two tests:—

1. The Wassermann reaction is not so valuable as the luetin test in cases of hereditary syphilis.

2. One series shows that it is impossible for a mother to give birth to a child who gives positive laboratory tests for congenital syphilis without herself giving positive tests.

3. While they believe that the luetin test is of more value in being more often positive than the Wassermann, they do not believe that it should displace the Wassermann, as both tests, it would seem, serve distinct purposes—the Wassermann to give evidence of the presence of antibodies in the circulation, indicating an active process; while the luetin not only gives this evidence, but also indicates an existing syphilitic condition, even though it be inactive.

4. The luetin test is not without its disadvantages, as it requires considerable experience in differentiating the lesion from the simple reaction produced by the intradermal injection of sterile inert foreign material. It is also influenced by the administration of certain drugs, which many give rise to a pseudo-reaction, thereby adding to the possible inaccuracy in the interpretation of its reading.

5. Luetin reactions should not be considered negative until sufficient time shall have elapsed to warrant such a reading.—LEONARD FINDLAY.

Treatment of Hereditary Syphilis. By P. H. Sylvester (*Amer. Jour. Diseases of Children*, October, 1916).—This author holds that combined arsenical and mercurial treatment is the ideal method for both early and late manifestations of the disease. He advises the intravenous injection of concentrated solutions of salvarsan. He contrasts his results before and after the introduction of salvarsan therapy. Of 17 severe examples of the disease, only 4 died when treated with salvarsan and mercury, whereas of 20 equally severe cases treated with mercury alone, 16 died. Although the author has had no personal experience with ante-natal treatment, he concludes from the results obtained at Boston Maternity Hospital that this method gives the best results. Among the late examples of the disease which he treated were several with mental deficiency, and he remarks on the improvement in mental condition which resulted.—LEONARD FINDLAY.

Congenital Syphilis Simulating Mongolism in One of Twins. By Frank v. d. Bogert (*Amer. Jour. Diseases of Children*, January, 1916).—In this paper is recorded the family history of two children presenting all the characteristics of Mongolism. Both give a positive Wassermann reaction, and the twin brother of the younger child, who is apparently normal, reacts negatively to the Wassermann test.—LEONARD FINDLAY.

Books, Pamphlets, &c., Received.

The Art of Anæsthesia, by Paluel J. Flagg, M.D. With 136 illustrations. London: J. B. Lippincott Company. 1916. (15s. net.)

The Biology of Tumours, by C. Mansell Moullin, M.A., M.D.Oxon., F.R.C.S. London: H. K. Lewis & Co., Limited. 1916. (2s. 6d. net.)

The Sexual Disabilities of Man and their Treatment and Prevention, by Arthur Cooper. Third edition, revised and enlarged. London: H. K. Lewis & Co., Limited. 1916. (6s. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR
THE FIVE WEEKS ENDED 27TH JANUARY, 1917.

	WEEK ENDING				
	Dec. 30.	Jan. 6.	Jan. 13.	Jan. 20.	Jan. 27.
Mean temperature, . . .	41·7°	44·3°	36·3°	35·1°	34·1°
Amount of rainfall, . ins.	1·58	1·04	0·93	0·03	0·00
Deaths (corrected), . . .	427	397	388	356	356
Death-rates,	20·4	18·6	18·1	16·6	16·6
Zymotic death-rates, . . .	0·6	0·4	0·8	0·6	0·8
Pulmonary death-rates, . .	6·4	6·0	6·0	5·9	4·6
DEATHS—					
Under 1 year,	80	76	58	55	50
60 years and upwards, . .	148	112	131	109	122
DEATHS FROM—					
Small-pox, . . . . .	...	...	...	...	...
Measles,	1	1	2	7	5
Scarlet fever,	1	1	...	...	1
Diphtheria,	4	2	3	1	5
Whooping-cough,	4	4	9	4	6
Enteric fever,	2	...	1	1	...
Cerebro-spinal fever, . . .	...	2	...	...	2
Diarrhœa (under 2 years of age),	9	7	5	5	1
Bronchitis, pneumonia, and pleurisy,	130	121	110	89	76
CASES REPORTED—					
Small-pox, . . . . .	...	...	...	...	...
Cerebro-spinal meningitis, .	1	3	1	3	5
Diphtheria and membranous croup,	17	21	24	18	33
Erysipelas,	22	16	22	16	17
Scarlet fever,	39	47	36	35	57
Typhus fever,	1	...	...	...	...
Enteric fever,	3	1	2	1	1
Phthisis,	87	31	53	66	59
Puerperal fever,	5	1	2	6	3
Measles,*	64	44	176	127	182

* Measles not notifiable.

THE
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No. III. MARCH, 1917.

ORIGINAL ARTICLES.

POPULAR CUSTOMS AND SUPERSTITIONS IN CONNECTION WITH PUBERTY AND OBSTETRICS IN CENTRAL EUROPE.*

By G. BALFOUR MARSHALL, M.D., F.R.F.P.S.G.

MISS PRESIDENT AND LADIES,—When your Club honoured me with the invitation to address you this session, the question arose of a suitable subject selected from the special branch of medical science to which I belong. The war was, and is still, uppermost in my mind, as it must be in yours, and none of us can think of this war without appreciating to the full the splendid part the women of this country have played, be it in the medical profession or in munitions.

You as Glasgow medical women naturally give pride of place to the Scottish Women's Hospital, and your thoughts are directed to the Balkans where, considering the difficulties, the noblest work of our medical women has been, and is being,

* Lecture given before Queen Margaret Medical Club, 12th February, 1917.

performed. Who amongst you, realising the difficulties, can read without a quickening of the pulse of what these medical women—heroines all—did for the care of the retreating Serbians last winter, and of what they are now doing on the Balkan front? We all fervently hope that ere long Scottish Women's Hospital units will be advancing along with victorious armies into the plains of Hungary. When they do so, they will come in contact with many nationalities and races, for in the Balkans and Hungary are to be found Austrians, Germans, Magyars, Czechs, Poles, Roumanians, Serbians, Bulgarians, Slavs, Slovaks, Ruthenians, Galicians, Wallachians, Jews, and others. Already these names are all familiar to readers of the war news coming from the south-eastern European battle front.

Representatives of several of these races may be found living in one community, and, although in daily contact with one another, yet each race holds fast by its own customs and traditions. Those who have done medical work amongst the Jewish community in the Gorbals district of our city will have realised how an alien race remains faithful to its own traditions.

As regards the medical welfare of the numerous races to be found in the Balkans and Hungary, ancient prejudices are gradually being superseded by the activities of trained midwives and medical men, who, as elsewhere, are finding their way even into outlying districts. But the country is a large one, means of communication are poor, and not such as we are familiar with, so that there are still many places where old traditions hold sway, and where the medical care of infant, girl, and mother depends on racial custom, fostered by the would-be learned old woman, or, as she is called in Scotland, "skilly woman."

In course of time—and who knows how speedy it may be after this great upheaval when right prevails over might, and the smaller nationalities come into their own—we shall find that popular customs, based on ignorance, will gradually vanish as they have done in our own country, when those people enjoy our blessings of medical officers of health and of schools, qualified midwives, health visitors, and the host of other officials in our midst, whose aim in life is to prevent

us dying before we reach the allotted span of three score years and ten.

Dr. Rudolph Temesvary, a gynæcologist in Budapest, interested himself in the customs and superstitions of the numerous races already referred to, and it is to his book that I am indebted for the subject of this evening's lecture. His work covers the whole field of obstetrics as practised by untrained women, and according to social custom; but the time at my disposal will only permit me to touch the fringe of the subject by selecting a few of the practices associated with the time of puberty and of parturition.

PUBERTY AND APPEARANCE OF FIRST MENSES.

When the girl has reached puberty and menstruation has begun, various superstitious customs are practised at the appearance of the first flow, in the belief that the exercise of these will influence the future reproductive period of her life.

1. *Customs to influence duration of flow.*—Menstruation is regarded as an evil, a something which must be endured, but at the same time there is such a general desire to limit the duration of all future periods that certain ceremonies are carried out with this end in view. Three examples will suffice, and, needless to say, the result can only be as ineffective as the method is stupid.

(a) The clothing stained by the first menses is soaked in water for three days, then the soiled water is poured out of a dish through the space between the third and fourth rungs of a ladder. Thus does the girl seek to limit all her future periods to a duration of three days.

(b) In other places it is the custom to wipe the two lower steps of the staircase with the soiled cloth. This is done by those who wish to limit future periods to two days.

(c) Another practice is to wash the first soiled clothing with one, two, three, or four fingers only, according as the desire is to limit future periods to one, two, three, or four days.

2. *Customs to acquire a good complexion.*—A curious custom

still exists in several districts where the girl, during her first menses, is slapped on both cheeks by her mother, with the saying, "As her face is made rosy by these slaps, so may it ever remain rosy even unto death."

Another custom for acquiring a rosy complexion is for the girl to sprinkle a rose bush with the first blood she loses, so that her cheeks may be always as red as the roses.

3. *Supposed therapeutic value of first menses.*—If the face is rubbed with the first stained cloth it will prevent the appearance of summer freckles. This practice is equally efficacious against moles on the face. Roumanian girls wipe their eyes with their first stained garment before it is washed, so that they may always have a sharp eye on household affairs.

The first menstrual blood is supposed to be of value as a remedy for barrenness in fruit trees, and such trees are watered with the fluid in which the soiled clothing has been washed.

4. *Hygiene during menstruation.*—It will be of interest to refer first to the Jewish hygienic customs, as the law on this subject dates from the time of Moses, and may be read in the Old Testament. According to this ancient law, the menses were reckoned as lasting seven days, and during this week, as also for the whole following week, a woman was held as being unclean. Should the duration of the flow exceed a week, the woman was unclean for as many days as it lasted, and for seven days thereafter. On the conclusion of this period of uncleanness (at least fourteen days), the bath of purification must be taken, and two turtle doves sacrificed to the Lord. This law was so strictly observed that anyone became unclean should they touch any article or clothing used by an unclean woman, or touch any place where she may have sat or lain down, and such person must bathe and was regarded as unclean till evening.

The customs as practised by modern orthodox Jews are based on the law of Moses, but, by reckoning the duration of menstruation as lasting five days, the unclean period is thus reduced to twelve days. After sundown on the thirteenth

day the bath of purification is taken, though under certain circumstances this may be postponed till the following day.

This ritual bath is called "Mikevah," signifying a well or a spring, and must only be prepared from spring or rain water, though in some places the latter is prohibited owing to its being used as drinking water. Wherever a community of orthodox Jews exist a ritual bath is usually provided, and in small districts is generally placed in the courtyard of the place of worship. Should there be no such bath, the orthodox Jewess will bathe herself in some neighbouring stream or river, and this even in winter, when it may be necessary to break the ice to enable her to dip three times under, for is it not written that no single hair must remain dry?

The supply pipe of the ritual bath must have no angles nor acute bends, and, should a bend in the pipe be necessary, the curve must be gradual and rounded. The last quarter metre must not be of metal, and must be built in. The bath water must be one metre and a half deep, and at least one-third spring water.

In the town of Budapest an ordinary bath is taken before going into the public ritual bath, which is daily thoroughly cleaned out and dried: but in country districts the bath is not so free from reproach as regards ordinary cleanliness.

5. *Customs to limit amount of flow.*—When speaking of the customs practised at the time of the first menses, I mentioned that the great desire was to influence the duration of future periods. There is also a great desire to have the flow as scanty as possible, and for this reason the women neither wash themselves nor change their linen as long as the flow lasts. It is also believed that this avoidance of ordinary cleanliness prevents a woman looking old too soon.

Bathing is avoided, not only during the flow, but after its cessation, in the belief that "the woman's blood disappears with the water."

In some districts a cross is marked on the woman's brow, or her face is smeared with the blood. A boy is then brought in and asked what these marks signify, the reply given being "A day and a night." This denotes the length of time the woman wishes the flow to last. Others dip a coin in the blood,

or expectorate some water on to the garment, hoping that the amount of the flow will not be greater than the size of the coin or the mouthful of water expectorated.

In one district the woman sucks the first laid egg of a young hen, and, holding her under-garment with two fingers, draws it twice through the space between two rungs of a ladder.

The Roumanian women remain indoors and speak little, and in certain districts cook neither fruit nor vegetable, nor do they bake bread, even though the previous baking be finished.

LABOUR.

The ancient Magyars had a tutelary Goddess (Nagyboldogasszony) who was supposed to preside unseen at every labour, supporting the prospective mother in her hour of trial, and breathing life into the child, and protecting both from evil spirits. This belief is still held by some of the inhabitants of lower Hungary. Labour ended, the protection of the lying-in woman and child were delegated to the virgin daughter (Boldogasszony) of the Goddess. Since the spread of Christianity the Virgin Mary is regarded as the protectress of the lying-in period.

PREPARATION FOR LABOUR.

In several districts the birth is kept secret, and the midwife is only sent for after the woman has delivered herself in secret. This is due to the belief that labour will be more difficult if others know about it. The opposite view is, however, held in many places, and as many neighbours are called in as possible in order to cheer the patient and give her courage.

As a rule, the door and windows are closed, and the room heated up, even in summer. The longer the labour lasts the more is the room heated up. A lighted candle is usually placed at the window, and kept burning till the child is born.

It is almost universally the custom for the patient to be confined in her dirtiest and oldest garments, and most wear chemise, petticoat, and stockings. Some are confined in a nude state: others wear all their clothing, especially those who are delivered in the standing position.

It is stated that the trained midwife has a bitter fight trying

to get the women to put on clean linen, owing to their belief that clothing soiled at labour cannot be thoroughly washed out, and some carry this belief so far that a clean chemise is not put on till the eighth day of the puerperium is over.

It is generally the custom amongst the lower classes in Hungary never to be confined in the lying-in bed, and on the few occasions on which a bed is used as a labour couch when the recumbent position is adopted, all the bedding is removed and some straw used as a mattress.

POSITIONS ADOPTED DURING LABOUR.

During the first stage of labour it is usual for the patient to move about, but, as will be shown under the management of labour, not in the usual calm, leisurely way you will see in Britain.

When it comes to the second stage of labour and the delivery of the child, the patient adopts one of four positions, according to the custom of her race. These positions are—

1. Delivery while standing.
2. Delivery in a kneeling posture.
3. Delivery in a sitting posture.
4. Delivery in a lying or recumbent position.

1. *Delivery in a standing position.*—This is a favourite position amongst some of the Roumanians and Slovaks. The patient either stands in the middle of the room or leans against the wall, and for support in bearing-down holds on to a rope which is fastened to the door-post or one of the rafters in the roof. In other cases she is supported by a woman standing on each side and holding her under the arms.

A most barbarous method is practised amongst the Marmaros Ruthenians, especially when the labour is tedious. This consists in suspending the unfortunate woman clear of the ground by means of a rope passed under her arms and fastened to an overhead rafter. This custom is unknown in any other part of Europe, but is said to be practised by the Apache Indians.

2. *Delivery in a kneeling posture.*—The patient kneels or squats on the bare or straw-covered floor in the room, holding

on to a stool or other suitable support, while the midwife sits or kneels either before or behind the patient awaiting the infant's arrival.

Many years ago I attended a confinement in Scotland where the patient insisted on being delivered in the kneeling position while she held on to a chair with both hands. A modification of this position is adopted by the Bacsar Serbians, the woman squatting on all fours, *i.e.*, the knee-elbow position.

3. *Delivery in a sitting posture.*—This is a favourite method amongst the Magyars wherever found, and is simply a modification of the old custom of delivery on the labour stool at one time used in this and other countries. The usual way is for the patient to sit on the corners of two chairs placed close together, her feet resting on two upturned baskets or baking troughs. A chair turned upside down, or two foot-stools, are sometimes used instead. A large dish is usually placed under her on the floor to catch the liquor amnii and other discharges, while the midwife squats before—rarely behind—the patient to deliver the infant. The perineum is either not supported at all or, as might be expected, is not, and could not be, efficiently supported with the patient in such a posture. A woman stands or sits behind the patient, and places her arms round her while pressing her knees or feet against the patient's back, which is said to ease the labour. Those of you who have taken out their cases will know what comfort is afforded the patient when the midwife presses her hand on the upper part of the sacrum.

4. *Delivery in the recumbent position.*—As already stated, delivery amongst the poorer classes never occurs in the lying-in bed, and this holds good with those who adopt the recumbent position in labour.

Delivery takes place with the patient lying on the bare earthen or other floor of the room, or on a dirty coverlet or rags spread on the floor. In other cases the couch consists of a heap of straw or hay placed in the corner of the room and covered with a dirty cloth. In some districts it is held important to lay the straw parallel with the rafters in order

to ensure an easy labour. If the straw be placed otherwise it is believed to cause a transverse lie of the child.

Some people a little more advanced in their ideas may use their bed, but all bedding, including mattress, is first removed and some straw substituted, on which the woman lies. A sack or coverlet may be placed over the straw, but never fresh or clean white bed linen. A few forms placed together are occasionally used as a labour couch. One reason for avoiding delivery in bed is that the labour is said to be more difficult and prolonged, so it is a common practice amongst those who are otherwise delivered in bed that if labour become tedious and painful they get out of bed and lie on the floor, or are delivered in a sitting posture. The educated and intelligent classes of all nationalities are delivered in bed, so that these crude customs only pertain amongst the poorer people.

Where there are several different nationalities in one district, all four methods of delivery may be found practised in that district. Bulgarians, Serbians, Roumanians, are delivered on the earth floor; Hungarians use the sitting posture; Slovaks stand or sit; certain Roumanians and Serbians kneel. The Jewish women all over Hungary are delivered in bed.

MANAGEMENT OF LABOUR.

The customs peculiar to the management of labour are most varied, and have for their object the hastening of labour and the alleviation of the patient's sufferings. They are too numerous to mention within the scope of this paper, but the examples cited seem more likely to increase than ameliorate the distress of the unfortunate patient. The various methods are classified under the following headings:—

1. *Active movements by the patient herself.*—It is usual for the woman to walk about the room during the first stage of labour, and in some places this is also done during the stage of expulsion. Not rarely this exercise is kept up so long that the poor patient becomes utterly exhausted, but this does not entitle her to rest, as she is then supported by two women who keep her moving about, because “only in this way do the bones open.”

Other active movements are kicking the door latch; shoving with her foot at the dog or cat; walking thrice round the table and bending down to kiss each corner of it three times; crawling under a rope stretched a little above the floor; blowing into an empty bottle; &c.

2. *Passive movements.*—A common method is for the husband or midwife, or some other person deputed for the task, to lift the patient and shake her vigorously three times "like a full sack." Energetic massage, and especially of the abdomen, which is often previously smeared with butter, is a common practice. In other places the patient is put in a meal sack and rolled about, or she is swung in a sheet or trough and thoroughly shaken. Forceful compression of the abdomen is also done.

3. *Treatment by steaming and fumigation.*—This is a common method of treatment, and in the event of no good resulting from a first application it is repeated thrice.

The steaming is done with hot water or with decoctions of camomile, dill, carraway, onions, carrots, hay, oats, &c., onions and carrots being the favourites. Fumigation is done by burning onions, feathers, &c. In one district horse excrement is boiled, and used both for steaming and for poultices. The vapour is produced by boiling the decoction, or by placing hot bricks or glowing charcoal in the vessel in which the ingredients are placed, and over which the patient stands stride-legs. Frequently she simply stands over the flame of spirits of wine or over glowing charcoal, by which many women get more or less burned.

4. *Internal medication.*—Alcohol in various forms is largely partaken of, and often in such quantities as to produce intoxication; wine is taken spiced with ginger, cinnamon, or cloves; also brandy boiled or spiced with ginger, saffron, carraway, sugared melon, water aloes: even brandy mixed with gunpowder or scrapings from silver coins. Other drinks are various infusions and decoctions made from camomile, rue and rose flowers, blue larkspur, bitterwort, poppy flowers, white lilies,

saffron, and other herbs. Onions are also eaten. The Erdélyer Roumanians put lead bullets in water which the woman drinks.

Various substances are also given which are in common use as abortifacients, these mostly having an emetic or purgative action, *e.g.*, infusions of peony roses, rue grass, saffron, squills, camphor, sorrel, cedar leaves, laurel seeds, &c.

5. *External applications.*—A favourite remedy is the promotion of diaphoresis. Even in summer the room is thoroughly heated up, and, in addition, the patient may be packed round with hot bricks.

If the labour pains are colicky, compresses of hot water, warm brandy, or infusion of camomile are applied to the abdomen; or poultices of boiled yarn, bran, oats, and various herbs; or warm cloths, plates, salt, hare's skin, or smoked hemp. In one district they rub the patient's abdomen with onion juice, place a flannel band round her body, and by it drag the poor woman about the room.

6. *Remedies of a superstitious character.*—Under this heading may be cited a few of the very many customs which are absolutely superstitious in their nature, and which, although designed to hasten labour, cannot possibly have any beneficial effect, and must in many instances add to the patient's sufferings.

Amongst the Serbians in Bacser the patient walks past the front of the baking oven, and drinks water out of her husband's boots or, specially, water in which a girl has previously washed her hair.

In one district the mother or mother-in-law lays her shawl over the abdomen of the patient and three times makes the sign of the cross on it.

In Jaszer district a lighted taper is stuck in the patient's umbilicus if the labour be severe.

In Muraköz the woman, before labour begins, upsets a jug with her foot, and during labour her abdomen is rubbed with a snake's skin, so that she may bear as easily as the snake casts its skin.

Dr. Temesvary obtained a large number of his facts from the

midwives practising amongst the peasants, so the following description by a midwife of what is done for a case of difficult labour amongst the Hungarian peasants of Arader is interesting. It will be noted that three is a magical number:—

“If the labour be tedious five or six women assemble, of whom each one has some fresh advice to give. The husband seizes his wife and shakes her thoroughly three times, so that the child may come further down. Then he gets her to drink thrice out of his left palm. Then the patient violently kicks the door thrice with her left heel. After this her husband washes and dries his wife, and winds his waistband thrice round her body.

“If all this fail they fumigate her with a mixture of nine varieties of herbs and onions, and cover her up so warmly that she is nearly suffocated. If this does not help, a rosary is laid on the patient’s breast and she is told to pray. Meanwhile they make her drink a decoction of white mallow root, cinnamon, and saffron cooked in milk. Under her back a bagful of warm clay is placed, and when the time for the expulsion of the child approaches they bind her lower limbs, so that the blood goes upwards and not into her extremities.

“After the child is born the woman blows into a glass, or she is placed over warm water, so that the placenta may be expelled soon. After this the woman’s face is wiped thrice with the placenta, which she also bites three times. After this she drinks a lot of brandy in which ginger, camphor, carraway, and saffron is mixed.

“The abdomen is massaged and covered with leaves of parsley, wormwood, camomile, hemlock, and burdock; then the patient is well covered up so that she perspires. Immediately labour is completed the patient eats a piece of bread with bacon fat and various other edibles.”

MANAGEMENT OF PLACENTAL STAGE.

In the absence of skilled assistance the universal method for expelling the placenta is the expulsive efforts of the patient herself. She blows into an empty bottle, or tube, or her closed fist, and so energetically is this done that she gets blue in the face. Stimulating her to sneeze or cough is also common.

If these means are not effective they proceed to other measures, many of which are just a repetition of those used to hasten labour generally, such as warm applications, various poultices or compresses to the abdomen, drinking brandy and decoctions of flax or broom seeds. The dangerous practice of pulling on the cord is also done. Steaming or fumigating the vulva is also practised, the patient squatting over a vessel in which hot water, boiled potatoes, carraway, or onions are placed. A variation of this is to boil an old hat, and place it as a hot poultice on the vulva.

Amongst the Erdélyer Saxons they fumigate the patient with hare's fur or rub the patient's abdomen with oil, during which the following doggerel is repeated:—

“Womb, thou art empty;
Womb, go from here.
Go into the black mountain,
Go into the white mountain,
Go into the cold mountain,
Go into the hot mountain.
Womb, go from here.”

A variation of this is to place the patient on the floor, and mark a cross on her back with a knife while repeating the above verse. The person who does this then goes outside and sticks the knife thrice into the ground—once before the threshold, once before the door, and the third time at a crossway. On returning from this performance the person says—“Thunder and lightning shall dry, wither, and grind ye worms in the forest. In God's name, womb thou art empty;” and so on, repeating the rest of the above doggerel. This is said in the belief that worms are responsible for the placenta being retained. In several districts, even before labour takes place, leeks are placed in the woman's bed, so that the uterus may not suffer from the worms.

Retained placenta is, however, not regarded as specially dangerous, so, should all household remedies fail to expel the placenta, it is allowed to remain in the uterus, even for days, rather than send for skilled medical assistance. This practice was even taught in the Hungarian midwife's text-book of over a century ago.

LYING-IN BED.

I previously mentioned that amongst the lower classes in Hungary labour never takes place in the lying-in bed. For the puerperium, or lying-in period, a special bed is provided, and it is not till labour is completed that the patient is placed there.

An exception to this pertains amongst the Roumanians, the unfortunate woman being allowed to lie on the floor for three days amongst the rags on which she was delivered. To make matters worse, these rags, soiled by the blood, liquor amnii, and filth of labour, are allowed to remain, not even the placenta being removed till the fourth day, when the patient gets up from her dirty and, no doubt, evil-smelling couch. One wonders how these women do not always suffer from puerperal sepsis.

The correct preparation of the lying-in bed, which is dedicated to the Virgin Mary, protectress of the puerperium, is a matter of great importance, and the following directions should be observed:—Although anything is good enough for being delivered on, great cleanliness is now considered. Fresh straw covered with a clean sheet is used for the mattress, while overhead a tent-like canopy is nailed up. Neither liquors nor tobacco must be placed in the bed, but, on the other hand, they arrange in it garlic, thyme, bread, salt, and a knife for the purpose of keeping away the witches, of whom they have so great a dread. The knife is usually laid under the pillow, so that whenever the patient gets out of bed she has it conveniently at hand to stick in the floor to keep away evil spirits.

The bed is daily blessed and sprinkled with holy water. No person is permitted to go near the bed, for if they should have the evil eye and see the patient, and afterwards look towards the floor, she will die. She may, however, be saved from this fate if the person in question look towards the roof instead. Some friend should always be in the room with the patient, but if for any reason this be impossible, the cat will do as a substitute. If the patient be left alone and thus unprotected, she will be bewitched and die.

This special bed is in use only till the christening day,

and while those concerned are at church for the christening ceremony the straw bedding is burned, and the bed taken down and put away till required for a future occasion.

DIETETICS OF THE PUERPERIUM.

For the lying-in woman of the lower classes the sovereign remedy for everything is spirits; it is food, drink, and medicine. Its use is begun immediately after labour, and it is often taken in large quantities in such forms as plum brandy, gin, and various kinds of schnapps, also brandy spiced with pepper, carraway, ginger, &c. A usual daily consumption is from 7 to 10 oz., but this may be exceeded, and up to a pint or more taken, with the result that many become almost, if not quite, intoxicated. Indeed, there is a saying in one district that when a man has had a fair quantity he "hat's gut, wie eine Wöchnerin," *i.e.*, "he's had as much as a lying-in woman." Many explain the beneficial action of spirits by saying that "it prevents her inside being chilled," that "it cleanses her blood and drives the bad blood out."

As regards diet, they are careful in some districts to give suitable food as we understand it, but the usual custom is for the patient to eat anything going, even if difficult to digest, *e.g.*, they will take five or six hard boiled eggs for one meal, and raw vegetables and fruit.

Amongst the Roumanians the patient, immediately after the confinement, must take as much food as she considers will fill up the space previously occupied by the child in her abdomen. There is always plenty to eat and drink, as it is customary for relatives and friends to bring enough to serve the whole household as well as the patient. These daily presents consist of soups, spiced meats, ham, various vegetables, cakes, and brandy.

Amongst the Croatians the female relatives, on the third Sunday after the confinement, bring baskets of cakes, various edibles and drinkables, and hold the so-called "cradle feast." The drinking of water during the puerperium is avoided as it is considered injurious, but in some districts they take camomile, elder or Russian tea, or a mixture of these.

SOME FRIGHTFUL WOUNDS OF WAR.

By A. G. FAULDS, M.B.,
Assistant Surgeon, Glasgow Royal Infirmary.

It was, I think, the late Mr. John Bright who said, in a great speech on war, "War! War! What is war? I believe half the people who talk about war have not the slightest idea what it is." How true these words are, and how impressive. And they apply to the profession especially, for I believe half the members of our profession who talk about war have not the slightest idea of what it is.

So revolting are the weapons used by the Germans in waging this disastrous war that not only do we marvel at the bravery of our soldiers, but we are struck with wonder that some of them live after receiving injuries so ghastly as to beggar description. Although many who are picked up from the field of battle die during transit, others are received at the Base Hospital, living, with no hope of recovery. Yet even such a human wreck,

"Condemned with life to part,
Still, still on hope relies,
And every pang that rends the heart
Bids expectation rise."

Others, again, are despatched to this country who, although comparatively comfortable, can only feel their helplessness in being for ever unable to take an active part in the affairs of life, and doomed to be bedridden for the rest of their days.

The high explosives, I think, produce not only the most ghastly, but the most wonderful wounds and conditions that I have seen. As I had a considerable number of these cases under my care, I will attempt, not only to describe some of them, but to discuss shortly their bearing on medical science.

It would seem that at the time of a high explosion the effect produced on the soldiers in the vicinity is in direct proportion to the distance they are from the shell at the time of its bursting. Those unfortunates who are in the immediate

vicinity are generally killed by fragments, those in the middle zone get parts of their bodies blown away, and those still farther out, in what might be called the outer zone, are the subjects of shell shock, of which we have heard so much. Let me attempt to describe one or two cases of those injuries of the middle and outer zones which have come before me.

One of the most revolting pictures I have seen was the case of a young Irishman who was injured at Ypres. He was, as far as I could ascertain, the member of an old Irish family. His older brother had obtained a commission in an Irish regiment at the beginning of the war. After some time had elapsed this younger brother, envious of his brother's success, had joined as a private, and in due time found his military duties at the front, as luck would have it, under the command of his own brother. They were both in the charge, and, when approaching a wall of about three feet high, a shell burst about fifty yards distant on the enemy's side of the wall amongst a considerable number of our men. This private had just got to the wall with others when he saw, he said, for a "flash of a second" a mountainous darkness. He became immediately unconscious. His brother, who was in front and nearer this great explosion, had escaped injury, and yet he was injured. He did not know what had occurred to those on the right of him, but he got to know that the two men immediately to his left had not been injured. This young Irish private had the side of his face practically blown away. His appearance when the dressings were taken off his head—the only part which had suffered in the explosion being the right side of his face—was not only melancholy but almost unspeakable. The right eye socket was without an eye; his whole right face was void of the smallest particle of tissue. From the middle of the mandible up to the upper part of the frontal bone around the temporal bone all was bare and denuded of flesh, as if it had been cleaned by the great vultures of the desert. His ear was also away; simply bare bones were left. His beautiful white teeth in all their sockets so regular, his white shining bones, his bare orbit, his zygomatic arch intact, with the greater part of the temporal and pterygoid muscles blown away, presented a most disgusting sight. Each dressing was daily more and more saturated in pus. The left face was perfectly well,

although it bore marks of being peppered with earth. Yet withal this poor chap was quite bright. He lay amongst the other soldiers quite cheery.

“Affliction’s sons are brothers in distress,
A brother to relieve—how exquisite the bliss.”

He had that type of Irish wit and humour which made those around him happy. One of his jokes to me was that the angels could only kiss him on one side of his face. When he first arrived at the Base Hospital he was unconscious, and for weeks remained moribund. A septic pneumonia at last set in, as often occurs in these prolonged suppurations, and relieved this poor young Irishman from his terrible suffering.

What occurs in these explosions which blow away the soft tissues of a soldier’s body and do no injury to the rest, is explained by the fact that when a shell bursts the impact around is not equal on all sides. It goes forth in columns. The force in the centre of the shell bursts its metal sides, but on the first opening columns of compressed air are shot out, which are so dense that they might almost be said to be solid. These travel at an enormous speed, and dissipate themselves in distance. Although fifty yards is given as the distance this soldier was from the shell when it burst, my knowledge of physics teaches me that that distance must be modified. However, it is well known amongst those who have seen the results of high explosions that air can be made just as solid as water, and, under such high condensation and rapid motion, can tear the clothes and strip the tissues from the bones of anyone unfortunate enough to be in its direct route. Everyone knows how a fine jet of water under high pressure can make as clean and deep an incision in the body as the keenest knife of a surgeon. So it is that columns of highly condensed air can produce such marvellous effects.

Another ghastly sight was that of a soldier who, in a similar way, had his left hip blown away. The picture was one of the most distressing I could have imagined. He had no bones fractured; no missile had struck him; he had not suffered from shell shock. He was small in stature, thin and wiry, and wore a very healthy complexion. When he was wounded he was in the act of using his bayonet in combat with a German.

His enemy had caught hold of the point of the bayonet in desperation, and he was just in the act of pushing the fixed spear into the ground to bring up the butt of his rifle when an explosion occurred. A number of men beside him, he said, had fallen, including his antagonist, with this explosion. He crawled for some distance along a trench, and, later, was picked up after having fainted from the loss of blood. His hip was quite denuded of tissue, exposing the great trochanter, all the dorsum of the ilium up to the crest, and the femur down nearly to half the length of the linea aspera. The only soft part left on the back of his thigh was the sciatic nerve, which shone out as a great white glistening cord. This man remained, as the reader can imagine, very ill for a long time, chiefly from hydræmia, and was one of my cases where great benefit accrued from a direct transfusion of blood. It will be seen from the foregoing description that so great was the extent of tissue lost that plastic or grafting operation was out of the question, and nothing was left but to amputate, or rather disarticulate, at the hip, and fold the anterior part of his thigh, which was intact, backwards to cover the ilium and part of the sacrum, and thus form the new hip.

Let me tell you of one more case which I saw, that was not immediately under my care, because I gave my opinion that no operative procedure could be entertained. The wonder was that the case ever lived at all, and did not die from shock at the time of the occurrence. This poor young soldier lived for weeks, until he died through the pure exhaustion of pain. He had the greater part of his abdominal parietes destroyed, exposing the transverse colon, the splenic flexure, and almost the whole of the anterior coils of the small intestine. The dressing, which replaced the lost abdominal wall, consisted of sterilised oil cloth. Incredible as it sounds, this poor fellow lived a considerable time after he received his injury in comparative comfort, though he ultimately died of fæcal fistulas, which developed one after the other, and general peritonitis.

These cases are depressing to one, especially when they have to be dressed three or four times daily. I could cite others which would fill one with marvel that life was possible under such revolting circumstances, and with wonder how these poor

creatures withstood the terrible shock of the occurrence and had the vitality to live, when life could offer them no prospects further than to suffer and die. These cases are most wonderful, not so much as to their nature and extent, but because they illustrate what terrible injuries some men can suffer without concussion, shock, or death from hæmorrhage.

Other injuries are alike wonderful in showing that bullets can pass through the most important anatomical areas and yet miss so miraculously the finest and most vital structures, following a course through which the most accurate anatomist, with all his knowledge, could not pass a probe without doing injury. Cases of this kind are daily popular tales, and instances are quite common in the hospital world. But to me the most wonderful conditions, which physiologists and anatomists are alike unable to explain, are the phenomena of shell shock. Shell shock, I should say, beats everything in modern warfare in producing physiological chaos short of death. Let me give you an example of this.

Sergeant F. was picked up unconscious. He had no wounds: he lay placid and pale, simply breathing. He had to be fed *per rectum*. He had no temperature of an abnormal nature. He lay for three months so, when suddenly one day he wakened up, looked round, and said to the nurse that he felt all right. After a short time of convalescence—moving from his bed to a chair, and so on—he gradually got stronger, and it was found he could read, write, and converse freely with the nurse, giving his family history correctly. Ultimately he walked up and down the ward, and chatted with other men. About a fortnight after he had been in the habit of walking round and getting out he wakened during his sleep in the middle of the night unable to speak. He could not speak: he could make signs, could hear and write, but could not utter one word of speech. He wrote down that he was wakened by something which had occurred in his head; something in front of both ears, deep down, and above the back of his mouth. He could write everything he wanted to communicate, answer questions in writing, had perfect knowledge of words and their meanings, could spell correctly, could cough, but he could not utter one single word. He breakfasted as usual, got up and walked about, and when one spoke to

him he simply made a sign with his hands that he was dumb. This man was healthy, and seemed to have recovered from his so-called concussion in so far that he could walk and go about his daily vocations without fault. One day all of a sudden, about ten days after this unfortunate sleep, his power of speech returned. He became joyous and willing to help in the ward, even willing to copy out "B. 179s," and was in every way a most delightful orderly. At ten o'clock one evening, about three weeks afterwards, I was passing through the ward when I saw, to my astonishment, this patient sitting by his bedside when all others were asleep and the ward in comparative darkness. When I approached him he stood up, and on my asking him what this meant, why he was not in bed, he informed me that he would not go to bed, as he knew that the moment he slept something in his head would occur which would render him speechless. All persuasion, reasoning, and sophistry could not get this soldier to go to his bed. He sat up the whole night, and went about the following day as usual. The next evening came, and still no attempt to get him to bed was successful. He simply refused on account of some presentiment which foretold his doom, and the third evening approached when he again sat down beside his bed determined not to sleep. He was given a hot cup of tea, after which, from pure exhaustion, he fell asleep beside his bed as we anticipated he would do, only to waken, unfortunately, in the morning perfectly mute as he had foretold. For ten days the patient remained dumb, which did not tend to exhibit his finer qualities and temper. When out walking with other soldiers his speech suddenly returned again. So with all these uncertainties of onset and duration ten months passed.

During these attacks of speechlessness almost all kinds of treatment were adopted—anæsthetics, hypnotics, electricity, x-rays, and massage—in fact, every form of treatment, including therapeutic agents, was found of no avail. One day I saw him when he had not spoken for ten days. He was very depressed, and I asked him if he could sing. He replied, in writing, that he was considered at home a very excellent baritone. So I asked the nurse to try to get him to attempt a song by playing his accompaniment on the piano. The next day the nurse informed me that they had rapidly got up a

small concert in the ward, at which the sergeant had been induced to try to sing. He selected "Tom Bowling" as his best song, and when his turn came he got greatly excited. After the nurse had played the introduction, F. began coughing and clearing his throat with great rapidity, loudly groaning, and then with a great effort "Tom Bowling" went aloft in the grandest and most melodious baritone tones, amidst the great gratification of his soldier audience and thundering applause at the end. In his great excitement he cried out as loudly as he could, "Hurrah, boys! I can speak again!" He retained his speaking faculty for about three weeks when aphonia set in again, but on singing being tried once more it was found to be unsuccessful.

Now, here we are confronted with a very curious and profound problem produced by explosions or atmospheric impact, and for which there are no explanations. I have seen several soldiers suffering in a like manner. One man, after a similar explosion experience, became conscious after a month, and remained well for weeks, then suddenly he lost the power of his bladder and bowels, which, however, would return unaccountably in ten days or a fortnight. Another soldier whom I saw in a similar way had frequent attacks of giddiness, would reel on his feet and become unconscious with no symptoms whatever of fits, would recover in a day or thirty-six hours, and go about afterwards in perfect health. In another case I found a soldier who had suffered for weeks from concussion got well, but had transient attacks of complete loss of memory and utter blindness without the auditory apparatus or any of the other special senses being involved.

I am certain that in none of these cases was there any motor paralysis. We know that the speech movements, just as any of the other voluntary movements, need not only the motor but also the sensory mechanism. These two parts reach to, and are controlled by, the mechanism that underlies the intellectual process. In none of these cases was there any motor disturbance, nor, as far as could be revealed, any sensory difficulties, nor could there be any destruction of parts of the cortical centres of the brain, for when their attacks of paralysis were over the return of the lost talent was complete and unimpaired. So also must Broca's convolution be intact. The

disturbance caused by these explosions must have a deeper effect, and is more likely to be nuclear, and possibly ultra-molecular. Some of the phenomena resemble epilepsy.

But I am bordering on a sphere which is not only difficult but speculative, and in this paper is perhaps less interesting than the facts, so I shall transfer the interest to another form of injury and relate a case which will illustrate the rapidity with which a foreign body can grow in the human bladder.

Some years ago I read a paper to the Glasgow Medico-Chirurgical Society on "Foreign bodies I have found in the female bladder," and displayed a great many objects, many of which had become the nuclei of calculi. One of these specimens, I remember, was a ring which had become in time a calculus of great size. This I had sawn in two, and found that it contained a gold ring.

When on military duty I had a soldier who, in the act of stooping to get beneath some barbed wire, had his penis carried away with a shot, leaving the testes unimpaired, but a deep wound in the perineum and scrotum. He had another small piece of shrapnel in his bladder, which had entered at the side of his buttock, passed through the rectum in its lower part, and found a home in the bladder. The great difficulty with this case was the finding enough of urethra to arrange for a plastic operation for preventing stricture. However, his cystitis was very bad, and I found with the cystoscope and sound a calculus about the size of a large walnut when he came under my care. This object I removed later, and one would have thought it almost impossible for a piece of shrapnel not larger than a split pea to have been so rapidly encrusted with uro-phosphates as to attain such dimensions as a walnut in twenty-four days. But such was the case; and we know from our study of physics that all electro-conductile metals placed in water generate an electric current which becomes in certain circumstances electro-magnetic to the impurities contained in the water. This explains the rapid growth of vesical calculi which have metallic nuclei.

Liquid fire has the credit of producing some most harrowing results. In fact, for obliterating facial features and producing ghastly expressions, I think no burning could be more effective. Some of these cases which were seen by me roused my deepest

sympathy. It is when the burns are healed and cicatrisation takes place, with the eyes scorched to blindness and the eyelids withered, exposing the sightless eyes, that those poor brave men become the object of our pity. I remember seeing an officer maimed so. His face, or what remained of it, was livid; his mouth contracted to a very small aperture; his eyes blind with corneitis pannosa, and their orbital coverings burned to cicatrices; his nose was pinched and contracted; all this being done by a jet of liquid fire. He was dressed in full uniform, and was being led by his nurse through a busy thoroughfare for a walk. What a melancholy scene. It is well known that Australian soldiers never salute officers; but in this case human nature became exalted, and it was pleasant to see all Colonials, British soldiers, officers, marines, policemen, and even civilians, when passing this unfortunate victim, immediately come to the salute—an honour of which this poor man was oblivious.

These cases are but a few which came before the writer, and I have no doubt that other surgeons could unfold more terrible tales of ghastly wounds inflicted on our brave soldiers whilst fighting this barbarian and most relentless of foes—a nation led by a monarch with a Bible in one pocket and the other filled with the most devilish devices to crush humble and inoffensive nations, which cruelty he piously dedicates to the Almighty. What can we expect from the Germans who are taught that the principles of warfare are vice, cruelty, and crimes in their basest forms, and the most desperate forms of frightfulness that the ingenuity of the Devil can produce?

Our admiration is beyond language at the steady determination of our troops to conquer so base and cruel an enemy, despite their criminal engines of war, the brutal contrivances and unheard-of practices of their warfare, and the unspeakable wounds and untold sufferings which they bring. Thank God we hear our enemy is doomed, not because they tried to conquer other nations, but because they have broken all moral laws, stooped to the lowest of moral strategies, and had the effrontery to condone them with God. No other fate than doom can await a nation determined

“To wade through slaughter to a throne,
And shut the gates of mercy on mankind.”

RESIDUAL URINE IN THE SENILE BLADDER, WITH
SPECIAL REFERENCE TO THE CONDUCT OF THE
CASE SO AS TO POSTPONE OR AVOID THE USE
OF THE CATHETER.

By DAVID NEWMAN, M.D.

(Concluded from p. 83.)

In respect to catheter treatment, my remarks have been limited to treatment of the residual urine in the cases of "quiet bladder" during the early stages of obstruction, with the object of diminishing the nocturnal calls to micturate, preventing the development of secondary complications, or relieving retention.

We must extend our attention to what may be described as the neglected cases of "quiet bladder" and those of "irritable bladder." Here we have two additional objects in view, cleansing the bladder and the relief of irritation. In long neglected cases of "quiet bladder" all the conditions are present favourable to an easy and dangerous infection of the retained urine—dilatation of the bladder, ureters, and renal pelves, atrophy of the vesical mucous membrane, and sometimes to moderate hypertrophy of the muscular wall. Stagnation alone cannot cause cystitis but predisposes to it greatly.

Also the circumstances are favourable to infection extending to the kidney, once the urine has been contaminated by an unclean catheter or by other means. By the distension of the ureters the orifices become patent, and no longer act as barriers against infection.

Let it be accepted that the patient has not been relieved by the surgeon in the early progress of the disease. The prostatic obstruction that induced hypertrophy of the walls of the bladder in the early stage, as the disease advances, also causes dilatation and atrophy of the muscular elements. Following these may also be sacculation of the bladder, and dilatation of the

ureters and the pelves of the kidneys. The urine is acid, pale in colour, deficient in urea, and may contain a little albumen. The patient is feeble, his appetite is poor, and his urinary troubles are as they have been for months.

After drinking rather heavily, or after returning from a fatiguing journey, he becomes "chilled," and goes to bed. Early the following morning he finds that he is unable to pass water, and no relief follows the remedies he is accustomed to use. Retention of urine is complete, and for the first time a catheter is passed, which is unclean. In the afternoon and evening, he has several severe rigors, his temperature rises rapidly, the pulse is full, bounding, and rapid, the respirations are shallow and augmented in number, the tongue is dry, and the lips parched. The skin is moist and soft. The urine now drawn off, in place of being clear and acid, contains some blood, is slightly opaque, and has a pungent odour. Next morning the urine is distinctly alkaline, and contains urea-decomposing organisms, such as *staphylococcus pyogenes aureus* and *staphylococcus pyogenes albus*. The tongue becomes dry and brown, the skin pale in colour, the quantity of urine secreted is diminished: later on diarrhœa sets in, the patient's temperature rises to 102° or 103° F., and then follow the symptoms of suppression of urine with septic intoxication.

When septic infection occurs at an earlier stage in the disease, the progress of events is not so rapid. The symptoms point to subacute cystitis with decomposition of urea prior to evacuation. The urine, from being clear and acid in reaction, slowly becomes turbid, and the reaction passes from acid to neutral, then gradually becomes alkaline, offensive in odour, and later on distinctly ammoniacal. Symptoms of cystitis slowly develop, and the urinary difficulties steadily increase, the inflamed bladder being less able to contend with the urethral obstruction. Infection gradually extends from the bladder to the ureters and kidneys. The general health becomes steadily impaired, feverish attacks occur at intervals, and toxic poisoning, from septic infection and suppression of urine, bring about the end.

How is this to be prevented?

Short of, or preparatory to, a radical operation, the treatment may be carried out in three ways.

1. *By catheter*—(a) Intermittent catheterisation and irrigation; (b) Continuous drainage.
2. *By perineal urethrotomy.*
3. *By suprapubic cystotomy.*

Intermittent catheterisation and irrigation.—The beginning of catheter life, when the bladder is inflamed and tensely distended, is not free from danger, although the instrument is safe and useful when used early in prostatic obstruction. It is often difficult to make a patient understand that the habitual use of the catheter is necessary in the early stages of obstruction. The treatment must be regulated, according as the secondary complications are just beginning or are advanced. It is the advanced cases with which I wish first to deal. Every surgeon is familiar with the danger attending the sudden relief of an over-distended bladder. It must be emptied very slowly.

Cases with chronic cystitis, due to an organism which does not decompose urea, are best treated by regular irrigation; simple withdrawal of the urine is not sufficient. In infection by bacillus coli, the bladder-wall is frequently coated with flaky mucus, which adheres firmly to the mucous membrane, and this must be washed away by irrigating the bladder very freely, morning and evening regularly. Regularly, because, if the irrigation be interrupted before the bladder is thoroughly cleansed, the bacilli have an opportunity of reasserting themselves. The bladder must be distended as fully as possible, short of producing pain, and emptied from four to six times at each sitting. This must be done by the surgeon, not by the patient, however practised he may be in the use of the catheter, and with a syphon arrangement, for syringes are of no use.

If the patient is lying upon his back or even standing, and about 12 ounces of fluid are introduced by syringe, the fluid being allowed to escape through the catheter, not nearly the whole of the fluid may come away; but if the catheter is continuous with a syphon tube with a 2-foot fall, not only will the bladder be emptied completely, but the solution will be withdrawn rapidly and with suction, and the cleansing thereby rendered more thorough. Besides, by using a syphon the

pressure employed is known; with a syringe it is impossible to judge the force employed.

The simplest plan is to have the first limb of a T-tube fixed to a gum-elastic catheter; to the second limb of the T is attached a clipped rubber tube, leading from an irrigator elevated 2 feet above the bed to give ingress pressure; and the third limb is connected with a clipped rubber tube falling into a vessel on the floor, which will give an egress suction of a 2-foot fall. The tubing and catheter are filled with solution; the ingress tube is closed with a clip: after the catheter has been passed into the bladder the exit is opened, which allows the contents to escape, but the bladder must not be emptied, as that is liable to cause irritation. The clip is then closed, and the ingress tube opened, distending the bladder till the patient complains; the solution is again allowed to flow out into a glass vessel, and the irrigation is repeated until the fluid escaping is perfectly clear. This is repeated, morning and evening, until the urine passed naturally is sterile.

A cystoscopic examination should then be made, and if irritation is noticed at the neck of the bladder, one or two instillations of nitrate of silver may be given by means of Guyon's catheter. The bulb of the catheter is passed beyond the grasp of the compressor urethrae, and a 1 per cent solution of nitrate of silver is slowly passed in, until 20 to 30 drops have been injected. They are allowed to remain, and their action is soon neutralised by the chlorides in the urine.

When the cystitis is due to organisms which decompose urea, the carbonate of ammonia formed renders the urine very irritating and offensive, so that the bladder and urethra are less able to tolerate active local treatment than in the cases above described. Consequently, great care is required in the selection of the agents to employ, for fear that the irrigation, in place of relieving the condition, may aggravate it. Probably the best agent to use, to begin with, is permanganate of potash, 0·025 per cent, and gradually increasing to 0·1 per cent solutions. At first the bladder may only admit a small quantity (2 oz. to 3 oz.). In such instances, continuous irrigation for ten minutes through a double catheter is most useful, the ingress irrigator being raised to $2\frac{1}{2}$ ft. and the egress vessel to $1\frac{1}{2}$ ft., so that the fluid within the bladder is submitted to

a constant pressure of a little over $1\frac{1}{2}$ ft. column of fluid. This may be repeated daily.

In other instances the capacity of the bladder is considerable (10 oz. to 12 oz.), but the urine is offensive and viscid, so that difficulty is experienced in irrigating on account of the large quantity of mucus present. Here it is necessary before irrigating with antiseptics to cleanse the bladder as thoroughly as possible of mucus, otherwise the remedy employed fails to come in direct contact with the mucous membrane. The best solvent of mucus is potassium hydrate in solution (grs. 10 ad Oi); irrigate till the fluid comes away clear, next wash the bladder with sterile water until what escapes is neutral, and afterwards fill the bladder with lactic bacillus culture fluid.³ This is drained off. Then 2 oz. are injected into the bladder and allowed to remain as long as the patient can retain it. By setting up an acid fermentation nascent lactic acid continues to be formed, while the lactic bacilli destroy the urea-decomposing organisms, and neutralise their toxins. The lactic bacillus is extremely virile, and in a bacterial contest with the septic organisms it is always the victor. Fortunately its own toxin—lactic acid—while being harmless, is a good solvent of phosphates. The lactic bacillus culture fluid is therefore a remedy in two ways.

When the symptoms point to a subacute cystitis with decomposition of urea prior to evacuation intermittent catheterisation and irrigation, followed by instillations of pure lactic bacillus cultures, may soon improve the condition of the urine. But the treatment must be carried out regularly, because, if interrupted before the bladder is thoroughly cleansed, the pyogenic bacilli have an opportunity of reasserting themselves. The bladder must be distended as fully as possible, short of producing pain, and evacuated from four to six times at each sitting with a syphon arrangement.

If irrigation improves the condition of matters, micturition becoming less frequent, the urine less purulent and offensive, and the general health of the patient more satisfactory, then other agents, such as boric acid, acetate of lead (1 in 2,000), or nitrate of silver, $\frac{1}{12}$ th grain to the ounce, may be used with advantage, and finally instillations of a stronger solution may be employed. Notwithstanding careful local and general

treatment, a certain number of cases persist, especially in those in which the kidneys are involved in the infection.

Continuous drainage by tying in a catheter passed through the whole urethra.—Continuous drainage by tying in a catheter has been recommended by some surgeons, with the precaution that a soft rubber instrument should be used, removed daily, sterilised, and reintroduced. Beneficial results are sometimes obtained, and some surgeons prefer an inlying catheter to intermittent catheterisation. If the catheter is tolerated, well and good, but most commonly the urethra becomes inflamed, and the treatment requires to be abandoned. If it succeeds, the question arises—how long is it to be continued, and when will it be safe to return to intermittent catheterisation? Probably the best rule to follow is to continue the drainage, until the urine is clear and all symptoms have subsided for a full week at least.

When the continuous drainage is stopped, intermittent catheterisation must be carried out very carefully, and at no time should the bladder be allowed to be over-distended. If there is any sign of relapse, the catheter must again be tied in. A good plan is to withdraw the catheter for two or three hours in the morning, then to draw off the urine, and allow the catheter to remain in until the following morning. It is then withdrawn as before, the urine is drawn off in two hours, and the catheter taken out; it is replaced in another two hours, and left in. So on, day by day, until the catheter is used intermittently during the day, while there is a continuous drain at night. In cases in which the urethra does not tolerate the continual presence of a catheter, drainage must be effected by other methods.

Continuous drainage through the perineum.—The advantages of this method, as compared with the former, are that it is less likely to lead to urethritis, and drainage may be continued for a long period. The operation is in itself harmless, and may be performed with the aid of a local anæsthetic in a few minutes: but the objections are the position of the incision, and the difficulty in keeping the wound clean. For this reason,

together with the fact that after long drainage a urinary fistula is apt to remain, I greatly prefer the suprapubic route.

Suprapubic drainage.—Often, in these patients, the cystitis has led to an acute inflammation of the prostate, and the contents of the bladder are found to be so viscid that they will not flow through the catheter, nor be washed out with the irrigator. When this is the case, or when there is hypertrophy of the muscular coat and sacculation, a stone, or a tumour, a suprapubic drain must be established to give free exit to the contents of the bladder, and to allow of thorough cleansing. A temporary drain of this kind is, short of a radical operation, by far the most effective treatment of enlarged prostate with chronic cystitis, and even in the most persistent and intractable cases astonishing results are obtained. Not only does the urine become healthy, and the mucous membrane normal, but large, inflamed, softened prostates subside, and in a few weeks the wound may be allowed to close.

Drainage also has a very beneficial effect upon the injured kidney. It has long been recognised that enlarged kidneys, associated with chronic cystitis and retention of urine, are reduced in bulk by free-bladder drainage. This is due, primarily, to the emptying of the pelvis and ureters, and secondarily, to relief of congestion of the renal parenchyma. The relief of backward pressure and intra-pelvic tension is the most important result of free-bladder drainage. A patient with a dilated bladder, from whatever cause, lives a life full of danger, because of the renal effects sure to follow. They may wait too long. Many wait until toxæmia is well developed, so that when drainage is established, the kidneys are unable to respond to the more favourable conditions. But even in the very worst cases it should be attempted, as some most unpromising cases have made good recoveries, and lived for years in comfort—men whose lives were at the time not worth six hours' purchase.

Drainage is of great advantage in many cases of enlarged prostate, prior to prostatectomy. In broken-down men, who have long suffered from obstruction or catheterism, with damaged kidneys and a condition bordering on toxæmia, their condition will be much improved by establishing a preliminary

suprapubic drain, serious risk is removed, and an operation, which would probably end in disaster, is rendered safe and easy, both for surgeon and patient.

The advantages claimed for catheter treatment are—

1. When employed with skill and scrupulous care as to asepsis the well-regulated use of the catheter may give great relief to the inconvenience of frequent or nocturnal micturition; it improves the condition and limits the quantity of residual urine.

2. The regular use of the catheter may prevent or delay the secondary changes due to over-distention.

3. If used in the early stage of obstruction, by cleansing the bladder it prevents cystitis and the formation of stone, as well as the danger of retention.

The objections urged against catheter treatment are—

1. Even when skilfully used it is a palliative only, and at the best merely retards the progress of the disease and the development of complications.

2. When used in early cases only in a small proportion does its use result in misfortune, but it is not possible to foretell the cases in which it will prove successful or otherwise.

3. There is always a risk, especially in neglected cases, of setting up inflammation in the prostate, epididymitis, or orchitis.

4. When used unskilfully the employment of the catheter, especially a metal instrument, may be followed by serious results—acute cystitis, hæmaturia, infiltration of urine, acute pyelonephritis, or suppurative nephritis.

The detailed consideration of the radical operations undertaken with the object of relieving the obstruction is outwith the scope of this article, so that it will be sufficient for me simply to indicate the conclusions I have arrived at through an extended experience.

Excluding malignant disease, we have three distinct conditions to contend with—Guthrie's bar, the inflammatory non-encapsuled form of enlargement, and the encapsuled hypertrophy of the prostate.

To remove an encapsuled benign adenoma is very simple, but to dig from its bed an adherent sclerotic formation composed of dense fibrous tissue and atrophied muscular fibres is a very different matter, and demands the skill of an experienced operator.

Take first Guthrie's bar. It is very interesting to observe that the procedure proposed by Guthrie is very much the same as that advocated at the present day; but now, with anæsthetics, the division of the bar can be more completely carried out than in his time.

He is the originator of the idea of dividing the bar and devised an instrument for the purpose. With a delightful modesty, which is more peculiar to his day than to our own, he remarks:—

“Messrs. Everill and Mason wished to call it my instrument; but as I never claim more in any instrument than the suggestion, leaving the mechanism entirely to the artist, I have begged them to take to themselves any or all the merit which may be due to it or them. The first instrument I used of the kind was made for me by Mr. Ferguson several years ago; and he made many attempts before he succeeded. Messrs. Everill and Co. have perfected it.”

“When a No. 2 prostate catheter is used, and it resembles in shape the common urethra sound recommended by Mr. Stanley, it will often slip over the bar with tolerable ease; but if one with a different curve be tried, and particularly if the curve be small, or the instrument is in other words straighter, the bar will catch on the point of it, and sometimes the obstacle can hardly be overcome. When the nature of the complaint has been well ascertained by repeated examination in every way, an instrument of the same shape, carrying at its extremity the small concealed knife alluded to, should be selected, and which, by a spring, is made to project as much by the side or by the end, or by both, as may be thought advisable. The knife, being projected just as the instrument is felt to be passing over the bar, will cut it; and if, after it has just past into the bladder, it be withdrawn, the little knife, in coming back, will enlarge the original cut; or it may be made altogether by the withdrawing motion of the instrument, the knife being sprung after it has just entered the bladder.”

The treatment of Guthrie's bar and that of the sclerotic prostate are so mixed up in the history and the literature of *prostatisme sans prostate* that it is almost impossible to disentangle the two disorders. The practical surgical point is that neither of these diseases lends itself to enucleation, but

requires to be incised, removed piecemeal, grooved, or cauterised. This fact was very thoroughly fixed on my mind in the first case of suprapubic prostatectomy I tackled.

By a few surgeons castration was being performed in the hope of producing atrophy of the prostate, as it was known that the removal of the testicles diminished the size of the normal gland. Suprapubic prostatectomy was being strongly advocated as a substitute, when a senior colleague asked me to assist him at his first operation. The case was one of encysted adenoma, and the gland came away with the greatest ease—nothing simpler, I thought. Within six weeks I had under my care a patient who suffered from enlarged prostate; my colleague agreed with me that it was a suitable one for operation, and kindly consented to help me in turn. The prostate was very different from the one he had excised. It was hard fibrous tissue firmly adherent, and after patient trials at enucleation we found it was impossible to lift it out, so the growth was removed piecemeal with cup-shaped cutting forceps, and curved scissors. It was a hard morning's work, but the result was ultimately quite satisfactory both to the patient and to me. It was quite good to have a difficult case to begin with, the easy ones seemed so simple afterwards, but at the time the experience was rather trying.

Civiale and Mercier endeavoured to free the passage by removing the obstructing portion of the prostate only. Mercier's (1856) instrument resembled a lithotrite with a single conical excisor which punched out the obstructing portion of the prostate, and from his operation he obtained good results; probably the best results were got in cases of pure bar obstruction.

Bottini (1874) obviated hæmorrhage by dividing the obstruction by means of an electric cautery, and his operation found many enthusiastic advocates, amongst whom may be mentioned Albarran, Bangs, Meyer, and Young. Chetwood employed another method; he made a button-hole opening in the perineum and introducing a guarded electric cautery through it cauterised the prostate.

H. H. Young⁴ reported a series of twenty cases, in fourteen of which he procured a cure. The instrument he used is described by A. Randall⁵:—

"The instrument devised by Young consists of an outer tube, or sheath, 18 cm. long, with a coude curve at its distal end. On the under surface, just proximal to the curve, is a large fenestra, which on introduction is closed by an obturator. On introducing the instrument, after distending the bladder with water, when the beak is felt to enter the internal sphincter the obturator is removed and an endoscopic light attached to the proximal end. By this means the instrument is further advanced under the guidance of the eye; the floor of the posterior urethra, with the verumontanum, is seen to pass the fenestra until, with a slight gush of water, the rim of the internal vesical orifice falls into and completely fills the fenestrated opening. As this constitutes the obstructing portion, it is immediately excised by passing within the sheath a second tube, which has a sharp cutting distal end made of steel, which, when pushed home, excises anything protruding into the lumen of the sheath. By this means a piece of tissue, measuring 1 by 1.5 cm., may be excised, and after its removal by forceps from the lumen of the inner tube, the operation may be repeated in the directions indicated by individual cases.

"The operative procedure is finished by washing the bladder free of blood clots through the instrument before its withdrawal, and immediately afterwards introducing a two way catheter of large size, through which a continuous irrigation of hot water (110° F.) is maintained to control bleeding and prevent clotting in the bladder cavity. The entire operation may easily be performed under local anæsthesia with 4 per cent novocaine, and represents the most radical method yet devised for removing the obstruction at the vesical orifice under the guidance of the eye."

Using my wash-out cystoscope⁶ modified slightly for the special purpose, I have obtained very good results. The window (6) in the shaft of the cystoscope (2) being widened beyond the ordinary opening, the obstructing band at the neck of the bladder (5) was engaged in it. In place of the ordinary wash-out inner tube a sharp cutting steel tube was introduced (1) and (4), and rotated so as to cut away the portion of the gland (5) protruding through the window and occupying the lumen of the outer tube of the cystoscope.

This method is suitable for the obstruction produced by

Guthrie's bars or the small sclerotic prostate, which, by the cystoscope, can easily be distinguished from other forms of enlargement; these are more suitably treated by the methods we now come to consider.

The other operations are suprapubic prostatectomy, perineal prostatectomy, and the combined method, and are suitable for

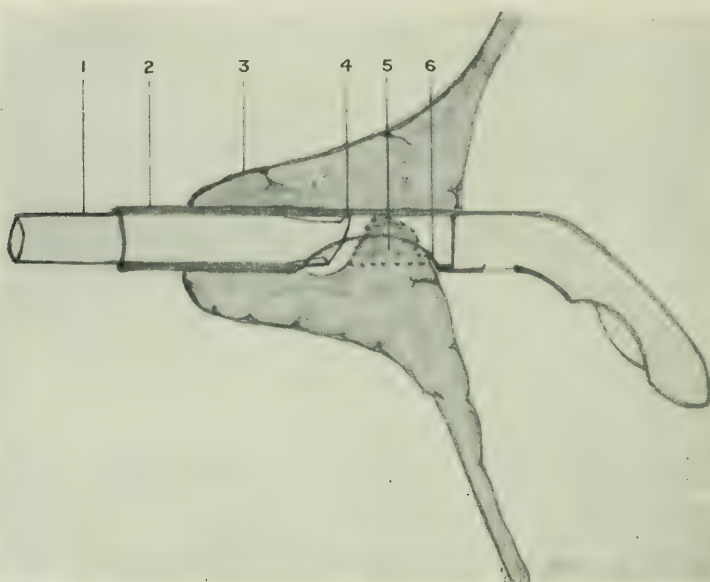


FIG. 5.

CYSTOSCOPE WITH SHARP CUTTING PUNCH FOR REMOVING OBSTRUCTION
AT THE NECK OF THE BLADDER.

The cystoscope (2) has been introduced just beyond the neck of the bladder and is pointing backwards, and the thickened portion of the prostate (5) on the posterior aspect of the neck is, with the finger in the rectum, pressed into the window (6) of the cystoscope, the sharp tube (4) replaces the telescope, and by rotating it the mass (5) lying in the lumen of the outer tube (2) is cut away. The anterior segment (3) of the prostate.

cases of hypertrophy of the prostate. The choice of one or other depends partly upon the personal experience of the surgeon, who naturally prefers the operation to which he is most accustomed, and it is rather remarkable that while in Europe the suprapubic method has been mostly favoured, in America the perineal operation has been strongly advocated. As regards comparative operative danger it is difficult to fix

a standard, as the suprapubic operation is resorted to in the worst cases where the perineal method is unsuitable; but, as a general statement, it may be said that the mortality of the former is about 5 per cent, while that of the latter is near 4·5 per cent—not very much to come and go upon.

The sexual powers are more likely to be abolished in the usual perineal prostatectomy, and, as far as can be judged, the after-results are not so satisfactory—epididymitis, fistula, stricture, and incontinence are more common, but, on the other hand, convalescence is shorter.

Far more important than the choice of the particular method of operating is the time to do it. The time is before the residual urine has done harm to the bladder or kidneys, and this lies in the hands of the medical attendant. In comparison with this, the technique of the operation or the various modifications in methods are of little consequence.

To prevent residual urine from increasing beyond a limited amount and to keep it sterile are the first points, and to have the obstruction removed while the bladder and kidneys are healthy is the next in importance.

In the great majority of cases the consulting surgeon is asked to see the patient after the catheter has been used for months or years, and very often the reference to the operator is made on account of complications having supervened which call for immediate action, such as difficulty in introducing the catheter, hæmorrhage, infection of the bladder, or the formation of vesical calculus. In these cases the least that can be done is a suprapubic cystotomy, either as a palliative procedure or as the first stage of a two-step operation used to minimise the hazard in unfavourable conditions. Indeed, in bad cases much good is derived from free drainage for several weeks—but at least one week—prior to the enucleation of the gland. If there be no bladder or kidney complications, and the patient's general health is sound, there is little or no danger in these operations for simple hypertrophy of the prostate in experienced hands, even when performed at one sitting; but when complications do exist, I always prefer to do cystostomy as a preliminary to the prostatectomy.

The advantages of the two-stage method are—the cystostomy tests the vitality and rallying power of the patient: it allows

the congested mucous membrane of the bladder and the swollen prostate to subside, so lessening the hæmorrhage at the enucleation; it reduces the duration of the second operation, and thereby diminishes the shock. In these ways it serves to make the conditions more favourable to the patient as well as easier for the operator.

In many cases, inflammatory enlargement is liable to be mistaken for hypertrophy of the prostate, and the danger is that when one-stage prostatectomy is performed the prostate may be excised, while a cure can be effected by drainage alone. To emphasise this point I may describe a case which is under my care at the present moment:—

J. K., aged 65 years, was admitted to the Glasgow Royal Infirmary on 7th February, 1917, suffering from complete retention. When I saw him on the night of admission I found the bladder distended to the level of the umbilicus, and the patient was in agony of pain both in the bladder and lumbar regions. A catheter could not be passed into the bladder, and on rectal examination a greatly enlarged prostate was discovered. A large trochar and cannula was introduced suprapubically, and 75 oz. of turbid urine was drawn off very slowly. Six days later I performed a suprapubic cystostomy, and found the middle lobe of the gland greatly enlarged, smooth, firm, and elastic, and to the finger exploring the bladder it gave the impression more of an hypertrophied than of an inflamed prostate. As the urine was purulent, I determined to drain the bladder for a few weeks and watch the effect. On 1st March I found that a full-sized bougie passed easily, and on exploring the bladder with the finger the enlargement of the prostate showed itself so diminished in bulk that enucleation became unnecessary.

REFERENCES.

- ³ Newman, "The treatment of cystitis by intravesical injections of lactic bacillus cultures," *Lancet*, 14th August, 1915, p. 230.
- ⁴ *Trans. Intern. Assoc. of Urology*, 1911.
- ⁵ *New York Medical Journal*, December, 1915, p. 1184.
- ⁶ *British Medical Journal*, 24th March, 1906.

Obituary.

ON SERVICE.

CAPTAIN JAMES MACALLAN, M.B., CH.B. GLASG.,
ROYAL ARMY MEDICAL CORPS.

WE regret to announce the death of Captain James Macallan, R.A.M.C., which took place on 9th February from wounds received in action on the 6th. Captain Macallan, who was the fourth son of Mr. Andrew Macallan, solicitor and bank agent, National Bank House, Rutherglen, was born in Rutherglen in 1886, and was educated at Stonelaw Higher Grade School, Rutherglen; the High School, Glasgow; and Glasgow University, where he took the degrees of M.B., Ch.B. in 1910. He then acted as assistant first to Dr. Gemmell, of New Cumnock, and, later, to Dr. Matthews, of Nantwich. He afterwards obtained an appointment in Wigan Infirmary, and when war was declared he was senior house surgeon there. He joined the army in November, 1914. Two of his brothers are on service, one of whom was wounded on 1st July, 1916.

CURRENT TOPICS.

GLASGOW AND WEST OF SCOTLAND MEDICAL ASSOCIATION.—The annual meeting of the Association was held in the Faculty Hall on Wednesday, 7th February, the President, Dr. Leonard Findlay, in the chair. The reports of the Treasurer and of the Editors of the *Journal* were read and approved, and other business was transacted. The office-bearers for 1916 were unanimously reappointed for 1917. The following is a list of the gentlemen so appointed:—

<i>President,</i>	DR. LEONARD FINDLAY.
<i>Vice-Presidents,</i>	{ DR. GEO. A. ALLAN. DR. ARCH. W. HARRINGTON.
<i>Editors,</i>	{ MR. GEORGE HENRY EDINGTON. DR. WILLIAM ROBERT JACK.
<i>Editor of "Abstracts,"</i>	DR. ROY F. YOUNG.

Editorial Committee.

DR. A. J. BALLANTYNE.	DR. LEONARD FINDLAY.
DR. JOHN BROWNLEE.	DR. A. A. GRAY.
DR. R. M. BUCHANAN.	PROF. R. MUIR.
DR. E. P. CATHCART.	DR. E. H. L. OLIPHANT.
DR. F. J. CHARTERIS.	DR. J. R. RIDDELL.

<i>Treasurer,</i>	{ DR. W. B. INGLIS POLLOCK, 21 Woodside Place.
<i>Secretary,</i>	{ DR. JOHN ANDERSON, 7 St. Bride's Road, Newlands.

General Business Committee.

DR. J. M. COWAN.	DR. R. T. HALLIDAY.
DR. WALKER DOWNIE.	DR. W. CAMPBELL MACKIE.
DR. G. B. FLEMING.	DR. GEORGE M ^c INTYRE.
DR. R. S. FULLARTON.	DR. ARCHIBALD YOUNG.
<i>Auditors,</i>	{ DR. W. WALLACE. DR. JOHN SHAW DUNN.

APPOINTMENTS.—The following appointments have recently been made:—

J. Galbraith Connal, M.B.Glasg. (1886), F.R.F.P.S.G., to be Senior Surgeon to Glasgow Hospital for Diseases of the Ear, Nose, and Throat.

J. Cumming, M.B., C.M.Glasg. (1895), to be Certifying Factory Surgeon for the Hull District, co. York.

A. A. Gray, M.D.Glasg. (M.B., 1890), to be Lecturer on Diseases of the Ear in Glasgow University, and to be Surgeon for Diseases of the Ear to the Western Infirmary, Glasgow.

J. R. Riddell, F.R.F.P.S.Glasg., to be University Lecturer in Electrical Diagnosis and Therapeutics at the Glasgow Royal Infirmary.

R. Stobo, M.D.Glasg. (M.B., 1891), to be District Medical Officer of the Malton (Out-relief) Union.

Royal Navy (31st January): Fleet Surgeon H. W. Finlayson, M.B., C.M.Glasg. (1887), D.S.O., to *President*, additional for Greenwich College and School.

Royal Army Medical Corps (16th January): To be temporary Captains—Temporary Lieutenants W. Duffy, M.B., Ch.B.Glasg. (1905); J. S. Dunn, M.D.Glasg. (M.B., 1905); J. B. Mackay, M.B., Ch.B.Glasg. (1907).

22nd January: To be temporary Captain—Temporary Lieutenant D. K. Macdougall, M.B., Ch.B.Glasg. (1915). To be Lieutenant—Temporary Lieutenant D. H. Coats, M.B., Ch.B. Glasg. (1916).

29th January: To be temporary Lieutenants—D. N. Knox, M.B., Ch.B.Glasg. (1909); J. C. Henderson, M.B., Ch.B.Glasg. (1904); J. Gardner, M.D.Glasg. (M.B., 1899); J. D. Laidlaw, M.B., Ch.B.Glasg. (1900); J. Hogg, M.B., C.M.Glasg. (1897); A. M. Crawford, M.D.Glasg. (M.B., 1906); W. T. Hardie, M.B., Ch.B.Glasg. (1906); T. H. Campbell, M.B., Ch.B.Glasg. (1907); J. Harper, M.B., Ch.B.Glasg. (1909); W. M. McFarlane, M.B., C.M.Glasg. (1896); A. G. Holms, M.B., Ch.B.Glasg. (1911).

2nd February: To be temporary Captains—Temporary Lieutenants H. Miller, M.B., Ch.B.Glasg. (1899); W. A. Paterson, M.B., C.M.Glasg. (1892); R. D. Bell, M.B., Ch.B.Glasg. (1904); A. Stewart, M.B., Ch.B.Glasg. (1900); D. Manson, M.B., Ch.B. Glasg. (1909); J. B. Alexander, M.B., Ch.B.Glasg. (1911). To

be temporary Lieutenants—G. C. Swanson, M.B., Ch.B.Glasg. (1916); E. G. Y. Thom, M.B., Ch.B.Glasg. (1913); W. J. Isbister, M.B., Ch.B.Glasg. (1901); T. C. Dalrymple Watt, M.B., Ch.B. Glasg. (1908); A. H. Hall, M.B., Ch.B.Glasg. (1914).

3rd February: To be Captain—Lieutenant J. Alston, M.B., Ch.B.Glasg. (1916).

8th February: To be temporary Lieutenant—A. Kirkhope, M.B., Ch.B.Glasg. (1911).

15th February: To be temporary Captains—Temporary Lieutenants A. D. Moffat, M.B., Ch.B.Glasg. (1914); A. D. Buchanan, M.B., Ch.B.Glasg. (1911); J. M'F. Grier, M.B., Ch.B. Glasg. (1913).

SCOTTISH COMMAND ORDERS.—The following appears in the Orders of 31st January:—

On and after Thursday, 1st February, the Scottish Command will be divided for medical administrative purposes into an eastern and a western district. Medical and sanitary questions requiring reference to higher authority will no longer be forwarded direct to Command Headquarters, but will be submitted in all cases to the Assistant Director of Medical Services of the district concerned. Correspondence intended for the Assistant Director of Medical Services, and dealing with local medical or sanitary questions, must be accompanied by the opinion of the senior medical officer of garrison, station, or formation concerned. The western district is constituted as follows:—Address for correspondence—Assistant Director of Medical Services, Western District, Yorkhill Parade, Glasgow; limits of district—The counties of Orkney and Shetland, Caithness, Sutherland, Ross and Cromarty, Inverness, Argyll and Bute, Dumbarton, Stirling, Renfrew, Lanark, Ayr, Dumfries, Kirkcudbright, Wigtown. Colonel C. C. Reilly, C.B., Army Medical Service, is appointed A.D.M.S., Western District, 1st February.

The following appears in the Orders of 10th February:—

Colonel H. O. Trevor, A.M.S., in addition to his duties as President of Special Medical Board at Edinburgh, will visit all hospitals and auxiliary hospitals in the command with a view to ensuring rapid disposal of cases whose condition is not considered to warrant continuation of hospital treatment, or

which, from the nature of their disabilities, could be better treated elsewhere.

Major E. T. Lloyd, Royal Defence Corps, assumed duty as Commandant, Prisoners of War Camp, Hairmyres, on 18th January.

Major J. A. Anderson, R.A.M.C., is appointed Sanitary Officer of the Western District.

WAR HONOURS FOR GLASGOW GRADUATES.—In a supplement to the *London Gazette*, issued on 24th January, it is announced that His Majesty the King has been graciously pleased to appoint Colonel D. J. Mackintosh, M.V.O., M.B., C.M.Glasg., Army Medical Service, T.F. Reserve, to be a Companion of the Bath. As superintendent of the Western Infirmary and a distinguished authority on hospital administration, Colonel Mackintosh's name was widely known apart from his war services. He has for many years given devoted service in connection with the Volunteers, the Territorial Force, and ambulance work. He is colonel and assistant director of medical services for the Lowland Divisional area of Scotland. In November, 1914, he was appointed to supervise the administration and organisation of all military, war, and Territorial general hospitals in the Glasgow area. He was chairman of the Medical and Equipments Committee of the Scottish National Red Cross Hospital sent to South Africa, and he was mentioned in despatches. Colonel Mackintosh is a Member of the Victorian Order, an Honorary Associate of the Order of St. John of Jerusalem in England, and a Knight of Grace of that Order. He is a Fellow of the Royal Society of Edinburgh, and an honorary member of the American Hospitals Association. He is chairman of council of the St. Andrew's Ambulance Association, and is a vice-president of the British Hospitals Association. Colonel Mackintosh is a Doctor of Laws of Glasgow University.

In the issue of 26th January it is announced that the Military Cross has been bestowed on temporary Captain F. C. Macaulay, M.B., Ch.B.Glasg., R.A.M.C. Captain Macaulay, who is a graduate of 1908, and before the war was in practice in Colne, Lancashire, after having acted as house physician and house surgeon in the Victoria Infirmary, and as house physician in Belvidere Fever Hospital, received his decoration for

conspicuous gallantry and devotion to duty. He displayed great courage and determination in collecting and attending to wounded under very heavy fire.

Captain John Crawford, R.A.M.C., son of Councillor William Crawford, J.P., Potterhill, Paisley, has also been awarded the Military Cross for bravery in the field. Captain Crawford, who is 25 years of age, was educated in Paisley at the Grammar and Neilson Schools. He studied medicine at St. Mungo's College, Glasgow, where he had a distinguished career. After taking the Triple Qualification in November, 1915, he received a commission in the R.A.M.C.

In the list of honours conferred by H.M. the King of Serbia occurs the name of Captain (temporary Major) Edmund T. Burke, R.A.M.C., Special Reserve, upon whom has been bestowed the Order of the White Eagle, Fifth Class (with Swords). Captain Burke was a student and graduate of Glasgow University, where he took the degrees of M.B., Ch.B. in 1914.

GLASGOW MEDICAL CASUALTIES.—We regret to announce that Second Lieutenant William Colston Craig, South Lancashire Regiment, died on 20th January from wounds received in action. Mr. Craig, who was in his twenty-third year, was the third son of Mr. W. Craig, Balshagray Avenue, Partick. He was educated at Allan Glen's School and Morrison's Academy, and was a medical student of Glasgow University.

TRIPLE QUALIFICATION PASSES.—The examinations of the Board of the Royal College of Physicians of Edinburgh, Royal College of Surgeons of Edinburgh, and Royal Faculty of Physicians and Surgeons of Glasgow, were concluded at Edinburgh on the 20th January. The following candidates, having passed the final examination, were admitted L.R.C.P.E., L.R.C.S.E., L.R.F.P. & S.G.:—W. F. Mason, J. A. Tolmie, J. W. Gordon, R. F. C. H. Buchanan, A. Black, Y. N. Kadam, J. Berry, A. D. Gorman, and W. T. Garretson. *Medicine*.—R. N. Burton, F. J. Jack, M. G. Jones, and J. B. Minford. *Surgery*.—D. A. Jayasinghe. *Midwifery*.—B. Ajayi-Young, R. G. Battersby, A. E. Elliott, F. J. Jack, and G. A. Grandsoult. *Medical Jurisprudence*.—A. E. Hempleman, A. P. McLeod, R. Pollok,

J. Michaelson, A. P. F. Abeysuriya, J. L. West, A. I. Meek, D. Stewart, F. J. Jack, and D. C. Howard.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—At a meeting of the College held on 20th January, Mr. Dodballapur Sivappa Puttanna, L.R.C.P.E., L.R.C.S.E., L.R.F.P. & S.G., Dodballapur, *via* Cuntakal, India, having passed the requisite examinations between 2nd and 4th October, 1916, was admitted a Fellow.

GOVERNMENT REQUISITIONS OF WINE FOR FRENCH SOLDIERS.—We have received from Messrs. James L. Denman & Co., Ltd., 20 Piccadilly, London, the following information, with a request for its publication:—

“It is apparently not generally known that throughout the present war the French Government has requisitioned millions of bottles of claret or red wine for consumption by officers and men of every rank in the armies of the Republic. When this fact was first published by us, inquiries as to its accuracy came to hand from temperance organisations, as well as from private individuals who were surprised to learn that the practice had been adopted by our continental neighbours, upon the highest medical advice, with a view to preserve the health of the troops in the very trying conditions to which they were exposed by trench warfare and other features peculiar to the campaign. We, therefore, communicated with the French War Ministry, and are now able to give precise particulars in confirmation of our statement.

“The official returns furnished show that in 1915 the French Government requisitioned and purchased 4,685,000 hectolitres, or more than six hundred and eighteen million large bottles of claret or red wine, for the use of its armies.

“Each officer and man daily receives half a litre of wine, and the actual number of bottles requisitioned in the year mentioned was 927,630,000 half litres.

“During the following twelve months of 1916, when the forces engaged in the different theatres of operation had been largely increased, the total quantity of wine requisitioned by the Government of the Republic is estimated at 6,000,000 hectolitres, representing one thousand one hundred and eighty-eight million half litres = 792,000,000 large bottles.

"In the opinion of the medical staffs of the French armies, the daily consumption of wine has contributed in a very material degree to the magnificent health which all ranks have enjoyed since the beginning of the war. This is particularly apparent on the Eastern front, where we understand that the example has been followed with equal advantage in the case of the British troops."

Various opinions are held in the medical profession concerning the use of alcoholic stimulants in sickness and exhaustion, and among the abolitionists, both lay and medical, much has been made of the French Government's intention to enforce the suppression of "alcohol." It has been already abundantly shown, however, that the French word *alcool* does not mean, in ordinary parlance, every form of alcoholic beverage, but only ardent spirits. That the French Government's aim is to suppress these only is strikingly shown by the figures which Messrs. Denman have supplied, and by the French medical opinion which they adduce in their support. Whatever the views of individuals, it is in the interests of impartial investigation that the facts on either side should be fully known.

HEROIN AND THE DRUG HABIT.—The following excerpt from the minutes of the Committee on Drug Addiction of the Committee on Social Hygiene of the National Committee on Prisons, U.S.A., has been forwarded to us for publication:—

"It was regularly moved by Dr. Frederick Peterson and seconded by Dr. Samuel W. Lambert that it be resolved that in the opinion of the Committee, the drug heroin is of no real value in the practice of medicine, and that its place may be better taken by more efficacious agents that do not menace public welfare.

"Resolved that the committee recommend Federal legislation to prevent the importation, manufacture, and sale of heroin in the United States of America.—(Signed) Samuel W. Lambert, M.D., Frederick Peterson, M.D., Charles F. Stokes, M.D., Frederick Tilney, M.D., Simon Baruch, M.D. (Chairman, Committee on Drug Addiction), Helen Hartley Jenkins (Chairman, Committee on Social Hygiene). Attested — Joseph D. Sears, Secretary."

While heroin is not, we believe, habitually used in this

country to anything like the alarming extent or with the deleterious consequences that this energetic resolution would seem to imply, it is well that the attention of the profession should be called to the dangerous possibilities of a drug so frequently employed for purposes such as the relief of cough.

SUPPLY OF DRUGS FOR VENEREAL DISEASES.—A new Defence of the Realm Regulation issued in an Order in Council on 25th January gives power to the Local Government Board for Scotland during the continuance of the war to authorise any local authority or person to purchase and distribute any drug, medicine, or medicinal preparation specially designed for the treatment of venereal diseases. A local authority or a person so authorised, and any person obtaining a supply of any such drug or medicine from or through them to him shall not be liable to any action or proceedings in respect of the importation, purchase, sale, distribution, or use thereof on the ground that any patent or other similar rights are infringed thereby. Similar powers are given to the local Government Boards for England and Ireland.

THE SUPPLY OF GLYCERINE.—The Ministry of Munitions announces that owing to additional demands for glycerine for war purposes it has become necessary to place further restrictions on the issue of medicinal glycerine, and that supplies in future will be reserved for the manufacture of the preparations of the British Pharmacopœia and for such uses of special importance as may be sanctioned by the Ministry of Munitions. These supplies will, however, be small, and must be used with the utmost economy. Applications for permits to obtain supplies should be addressed to the Director of Propellant Supplies, 32 Old Queen Street, Westminster, S.W., and should give the following particulars:—(1) Quantity applied for; (2) stock of glycerine held; (3) purpose for which supply is required (in case of extra British Pharmacopœia preparations formulæ should be given); (4) applicant's average yearly consumption of glycerine for above purposes; (5) name and address of proposed suppliers.

The medical profession have been informed of the need for economy in prescribing glycerine, and it is anticipated that the

requirements for dispensing will be greatly reduced. The stocks of glycerine in the hands of pharmacists should be sufficient to meet these reduced requirements, and therefore no glycerine will be issued for dispensing meantime. The surplus stocks held by pharmacists and all stocks held by retailers who are not in a position to use them for these restricted purposes should be disposed of either to other pharmacists who are short of stock or to wholesale houses for making B.P. preparations.

DEATH-RATE OF GLASGOW IN 1916.—In a return from the Medical Officer of Health, dated 11th January, 1917, it is stated that the deaths occurring and registered in Glasgow during the year 1916 numbered 16,875, as compared with 20,351 in 1915. On the estimated population this represents a death-rate for the year of 15·4 per 1,000, as compared with 18·9 for 1915. This is calculated on the number of deaths *registered* within the area, and is subject to correction for outward and inward transfers, the number of which is not at the moment available. It is the lowest hitherto recorded. It is associated with a simultaneous decrease in most of the infectious and respiratory diseases, the deaths from which were fewer by 2,540; while deaths from all other diseases were fewer by 936. The following table shows the deaths registered and death-rate in the old area of Glasgow, and in the area recently added, for 1916, and the corresponding rates for 1915:—

	Population.	Deaths.	Death-rate per 1,000.	
	1916.		1916.	1915.
Glasgow, as before extension,	845,035	13,733	16·3	19·9
Glasgow, added area, . . .	250,136	3,142	12·6	15·6
Glasgow, combined area, . .	1,095,171	16,875	15·4	18·9

The deaths under one year numbered 2,994, which is equivalent to a rate of 109 per 1,000 births, compared with 143 for the previous year. The lowest rate formerly recorded was 121 in 1910. The death-rate from the principal infectious diseases decreased from 2·755 per 1,000 in 1915 to 1·560 in 1916, the only increases being among deaths from typhus and diarrhoea. 1,412 deaths were ascribed to phthisis, and 3,003 to pneumonia and other respiratory diseases, the rate for the latter being 2·742, which is considerably below the rate for 1915.

The population of the city as at 30th June, 1916, is estimated at 1,095,171, compared with 1,074,577 in 1915. This represents a difference of 20,594, and a rate of increase of 1·9 per cent, compared with 1·7 for the preceding year, and 0·57 as the average annual increase during the decade 1901-1911.

GLASGOW ROYAL INFIRMARY: ANNUAL REPORT.—The annual meeting of the qualified contributors to Glasgow Royal Infirmary was held in the Merchants' Hall, Glasgow, on 12th February, the Lord Provost, Sir Thomas Dunlop, Bart., in the chair. The annual report stated that on account of the large number of patients treated and the increased cost of everything, the ordinary expenditure for the past year amounted to £70,538, £8,788 more than in the previous year. The ordinary revenue for the same period amounted to £40,380, £7,130 more than in the previous year, leaving the enormous deficiency on ordinary revenue for the year of £30,158. The deficiency in the previous year was £28,500. Extraordinary revenue amounted to £47,576, and extraordinary expenditure to £760, leaving a surplus on the extraordinary account of £46,816. The ordinary and extraordinary revenue together amounted to £87,956, and the ordinary and extraordinary expenditure to £71,298, showing a net increase over all of £16,658. This sum had been added to capital account, where it replaced a part of that which was taken from capital in the two previous years (£15,429 in 1915 and £2,651 in 1914), showing that in the transactions for the past three years the free capital account had been reduced by £1,422. That was exclusive of sums restricted for endowment of wards and beds. The managers repeated the urgent appeal which they made last year for increased financial support to the extent of an additional £30,000 per annum. Reference was also made to the meeting of citizens, called by the Lord Provost, in November to consider the urgent need for further monetary assistance, and it was stated that the public appeal launched at that meeting brought in £37,439, a handsome sum in itself but greatly short of what was necessary. In regard to the reconstruction fund, a further sum of £20,000 would be required to meet outstanding accounts for work completed, and the managers asked the authority of the contributors for a further transfer from capital of such a sum, not exceeding

£26,000, as might be required to close the reconstruction account.

The managers during the year placed at the disposal of the naval and military authorities 175 beds for sick and wounded sailors and soldiers. Practically all the members of the medical and surgical staff were doing military duty during the year, but notwithstanding a reduction in the staff the work of the Infirmary had been carried on in all its departments. The patients treated in the wards numbered 10,836 civilians and 688 soldiers and sailors, an increase of 134 over the previous year. The daily average number of patients resident was 767, an increase of 26 over the previous year. The admissions to the Infirmary numbered 10,789, an increase of 84 over the previous year; there were 1,051 deaths, a decrease of 7, the rate of mortality being 9·7 per cent as against 9·9. The daily average number resident was 767·7 as against 741·2 in the previous year. The average residence of those under treatment was 24·38 days as against 23·8 days. At the Dispensary the number of first attendances was 42,428, and the general total was 137,864. On the whole expenditure, including the outdoor departments, the average cost of each fully occupied bed was £89, 6s. 9½d. against £80, 13s. 0½d. in 1915, and the average cost of each patient under treatment was £5, 19s. 0¼d. against £5, 4s. 5½d. In the ophthalmic wards the number of patients treated was 825, a decrease of 74 as compared with the previous year, and 12,859 patients attended the dispensary for the first time, against 13,312 in 1915, the total number of attendances at the dispensary being 46,691. The average residence of the in-patients was 12·7 days. At the Schaw Convalescent Home the admissions were 1,167 against 1,289.

In thanking the subscribers and contributors, the managers expressed the hope that workers of all classes, including munition workers, would continue to take the same intelligent and practical interest in the usefulness and benefits of the institution. They also thanked the trustees of the late Miss M. S. Schaw, the generous donor of the Schaw Convalescent Home, for granting out of her estate, in exercise of the power conferred on them by her will, £40,000 to provide an additional endowment for the Home and £60,000 for the benefit of the general funds of the Infirmary. Of the £60,000, £40,000 was

restricted to the use of the income only. Up till the present 49 beds and 1 cot in the Infirmary had been permanently endowed, and the managers commended this method of helping the funds.

The Lord Provost, in moving approval of the report, referred to the financial statement, and said that as the result of his appeal to the citizens in November last £37,500 had been raised, but he confessed he was a little disappointed that the fund had not reached a higher figure. He was still hopeful that the citizens would see it to be their duty to come forward and put down even larger sums.

Mr. Jas. Macfarlane, chairman of the Infirmary, in seconding, said that it was important to create an atmosphere of interest in the city in the work done by the three large infirmaries. The working class representatives on the boards of the three infirmaries had issued an appeal to the workmen's committees in all the large works urging them to organise a scheme for collecting for the infirmaries and other institutions. Instead of a casual collection, in each work it was proposed that there should be a weekly or fortnightly levy. It was expected that in this way a very much larger sum would be raised by the working class. Along with that appeal they were sending a letter to the employers asking them to take an interest in the scheme, and give the committees in their respective works every facility they might require.

The report was adopted.

Lord Scott Dickson proposed a vote of thanks to the general body of subscribers, and particularly to the employees in works, warehouses, and other establishments, to the masters and crews of steamers, and to the harbour officials. He said that at a time like this, when every institution was feeling the pinch financially, the Royal Infirmary might congratulate itself even if there was a deficit of £30,000. The contributions from ordinary subscribers were larger this year than they had ever been, and it was not uninteresting to notice that the increase was shared in by practically all classes of subscribers.

Mr. Timothy Warren, honorary treasurer, in seconding, said the real necessity of the Royal Infirmary was to have not fortuitous or accidental gifts from year to year—although one did not object to them—but a steady increase of revenue from

subscribers, so that these gifts could be applied in building up their capital fund. The increase of subscriptions in 1916 was gratifying, but he confessed that the increase of subscriptions from public works was perhaps not altogether what it might be. One of his colleagues had figured out percentages of the contributions made from different sources. He found that in 1914 the contribution of the employees to the total was 30·17; in 1915, 29·81; and in 1916, 27·30—so that as a matter of fact, notwithstanding these extremely fortunate years for the working classes, the contributions as compared with the total had been rather retrogressive than otherwise. He was glad to know that the working classes were themselves conscious of the fact that much more might be done, and that they were organising a scheme by which a more systematic method would be adopted for obtaining subscriptions.

The motion was adopted.

Principal Sir Donald MacAlister, who moved the appointment of managers, said he was glad, for a personal reason, to be allowed to take a part in the proceedings. Ten years ago that day he was appointed to the office which he held in the University of Glasgow, so for him it was an interesting anniversary. During the ten years he had learned to know and to value the services which the Royal Infirmary was rendering to the relief of suffering among the poor, and to the advancement of medical knowledge for the benefit of poor and rich together. During the ten years also the ancient connection between the University and the Infirmary has been restored and strengthened, to the manifest advantage of both. In 1907 the University students in attendance at the Infirmary might be numbered by scores. In 1917 they must be reckoned by hundreds. And now at every graduation they were sending out to their work in all parts of the Empire and the world Glasgow bachelors and doctors of medicine, who looked back to the "Old Royal" as their training school, and included it affectionately in their memories of Alma Mater. If only by the help and sympathy of their fellow-citizens they could tide over the present crisis, he looked forward to still greater advances in the equipment of the Infirmary as a centre both of medical aid and of medical education.

The Rev. James MacGibbon seconded, and the motion was agreed to.

On the proposal of Sir Samuel Chisholm, Bart., seconded by Mr. James S. Craig, it was agreed that, in order to meet outstanding accounts in connection with the reconstruction, the managers be authorised to transfer from the free capital fund such sums, not exceeding £26,000, as may be required from time to time.

ROYAL HOSPITAL FOR SICK CHILDREN: ANNUAL REPORT.—The annual meeting of the subscribers to the Royal Hospital for Sick Children, Glasgow, was held on 29th January at the Hospital, Yorkhill, Bailie Duncan Graham presiding in the absence of the Lord Provost. The annual report stated that war conditions had prevented the directors from developing the resources of the new Hospital at Yorkhill as they would have done in normal times. In the four wards requisitioned by the military authorities 686 sick and wounded officers from all the various seats of war were treated during the year. This fact was no doubt gratifying in itself, but the loss of the use of these four wards for the reception and treatment of the children, for whom the Hospital was built, had resulted in unprecedented and regrettable pressure on the other wards. In spite of increasing the number of cots in these wards, even to the point of overcrowding, there had been constantly on the books the names of a large number of children waiting their turn for admission. The medical and nursing staff absent on naval and military service included eight physicians, five surgeons, and four specialists. In addition four physicians, four surgeons, and two specialists were engaged on military duty in Glasgow, which interfered with their work at the Hospital and Dispensary. If the depletion of the staff were carried further, some departments of work in the Hospital and Dispensary would have to be closed.

The children treated in the wards during the year numbered 2,249 (694 medical and 1,555 surgical cases) as compared with 2,231 (705 medical and 1,526 surgical cases) in the previous year. The increase in the number of very young children treated was noteworthy. The directors added that from their experience during the past two years it was clear that when they had the full use of the building they would be able to treat in the Hospital about 5,000 children per annum. The total

expenditure of the Hospital for the year was £20,782, 4s., including the expenditure incurred on behalf of the military authorities. The sum of £9,512 had been charged to the military authorities for the period from 1st June, 1915, to December, 1916. At the country branch at Drumchapel 176 patients were treated, the average daily number being 23. At the Dispensary the total number of attendances was 49,330 as compared with 47,140 in the previous year.

The directors drew special attention to the financial statement, which showed that the ordinary expenditure (£24,047, 6s. 10d.) exceeded the ordinary income (£12,024, 15s. 11d.) by £12,022, 10s. 11d. The sum charged to the military authorities reduced the deficiency to £2,510, 10s. 11d. This statement indicated that a very large increase in the ordinary annual revenue would be necessary if the resources of the Hospital were to be fully developed and made available to all little children in Glasgow and the West of Scotland who were sick and poor. If after the war the whole Hospital were to be available for children, practically the whole of the present military contribution would have to be made good from other sources. The total subscriptions received during the year amounted to £7,646—an increase of £689 on the previous year. The directors expressed their gratitude for this generous aid, but added that they would fail in their duty to the public of Glasgow and the West of Scotland if they did not point out that if the Children's Hospital were to be fully utilised the revenue from annual subscriptions would have to be doubled.

The Chairman, in moving the adoption of the report, said that the Hospital deserved well at the hands of the citizens. Many important schemes in connection with infant welfare and the prevention of infantile mortality were on foot at present, and the preservation of the children was never more important than now.

Professor Noël Paton seconded. He referred to investigations which had been made in regard to rickets and tetany. He said that at the request of the Medical Research Committee under the National Health Insurance Act Dr. Findlay had been studying rickets in the wards of the Hospital, and Miss Ferguson, under the direction of Dr. Findlay and himself (Professor Noël Paton), had been making an extensive examination

of the home conditions of the sufferers from the disease, while his staff at the laboratory in the University had been engaged in chemical investigations. Already as a result of their work they had come to very definite conclusions as to some of the determining factors, and he was not at all sure that the present tenement system was not partly at least responsible. As a result of that they had been put upon fresh lines of work which he trusted might help them to a better understanding of the true nature of the disease. Professor Noël Paton also referred to the investigations in connection with tetany, and said they had been able to mark down the poison which caused the condition and the probable modification of the body which led to the development of that, and they were starting off with further work to try to ascertain the source of the poison and the factors determining the development in the hope that it might lead towards a means of modifying or preventing the disease. It was by combined work of scientific physicians in properly equipped hospitals with the work in laboratories that all advance in the knowledge of disease had been made in the past and would be made in the future. He could not but feel that if the contributors to the institution recognised the enormous national work which the Hospital was doing, not merely in the treatment of the children just now but in the improvement of the children of all future generations, the contributions would be increased. Professor Noël Paton remarked in concluding that when coming to the Hospital he had been struck by the number of marble and granite monuments he had seen. He believed that there were to be monuments put up at the University to the two great Hunters who spent their lives in the investigation that helped in the alleviation of human suffering. It was intended to spend money on a miserable monument instead of devoting it to such an institution as the Sick Children's Hospital for the investigation of diseases.

The report was adopted.

The Duchess of Montrose proposed a resolution commending to the generosity of the public the directors' appeal for an increase of £6,000 in the annual subscriptions, to enable the great resources of the new Hospital to be fully developed. She said that when so many schemes had had to be postponed, and

many others had suffered financially, the welfare of the children had kept its place in the forefront of public attention. Because of the ravages that the war had inflicted on this generation the nation had turned its attention more and more to the welfare of the next generation, to the preventable diseases of childhood, and the best methods of combating them. She referred to various branches of the campaign on behalf of child welfare, and said that when all was said and done there still remained the problems of insanitary surroundings and unwholesome conditions in the homes of the children. She had seen herself the evils which resulted from high tenement houses when she had visited poor women in the Govan district where nurses from her training home worked. There she had seen on the third or fourth floor a young mother with a baby in her arms and several little children under five years. How was that poor woman to get down these long stairs to get her young family into the fresh air, to walk with them in the streets, and drag them up the stairs again? It was a physical impossibility, and the result was that for weeks and sometimes months the baby lived in the one room atmosphere, while the other little ones sat on the stairhead and never got the fresh air that was essential to their health. Could they wonder that so many poor little ones reared under such conditions suffered from rickets and kindred diseases? If high tenements must be built in the future, could the roof not be such as could be railed round and used as a playground for the children living in the upper storeys? That was done, she believed, in the high buildings in New York, and it at least ensured the possibility of fresh air and sunshine for children who otherwise languished as poor little prisoners away from their natural element.

Sir Samuel Chisholm, who seconded, commended the appeal to the generosity of the citizens.

The resolution was adopted.

REVIEWS.

The Respiratory Exchange of Animals and Man. By AUGUST KROGH, Ph.D. London: Longmans, Green & Co. 1916. (6s. net.)

THIS is another volume of the monographs on biochemistry, and a very welcome one. The author—Professor Krogh, of Copenhagen—is recognised as one of the most expert workers in the field of respiratory exchange. After a most careful perusal of the volume, one lays it down with somewhat mixed feelings—admiration for the very careful, critical, and thorough summary of the previous work, much of it practically unknown to the average physiologist, and regret that the author set such a narrow limit to his survey, the purely quantitative aspect of the catabolic activity of the living organism. No attempt has been made to deal with the infinitely more entrancing problem of the relations between functional activity and the respiratory exchange. It is to be hoped that the author will deal with this problem, one on which he is almost uniquely qualified to write, at a later date.

In the present volume, divided into nine chapters, he discusses the physiological significance of the exchange of oxygen and carbon dioxide, the methods of measuring the respiratory exchange, the exchange of nitrogen, hydrogen, methane, ammonia, &c., the standard metabolism of the organism, a short chapter on the influence of internal factors such as the internal secretions, influence of chemical factors such as drugs, of physical factors like light, temperature, &c. There is a particularly interesting chapter on the variations in standard metabolism during the life cycle, and another equally interesting on the respiratory exchange of different animals.

There is a very comprehensive bibliography and a good index.

The work is not a translation of a Danish book, but is an original contribution in English. The style is good, and the language clear and to the point.

Essentials of Chemical Physiology. By W. D. HALLIBURTON, M.D., LL.D., F.R.S. Ninth Edition. London: Longmans, Green & Co. 1916. (6s. net.)

A BOOK which has reached nine editions since 1893 requires no further recommendation. The present edition has undergone a certain amount of revision, and certain new methods, such as the ninhydrin reaction, the urease method of estimating urea, &c., have been incorporated. It would, however, be the better of even further revision, as statements are made here and there throughout the volume which are not generally accepted. It forms a good students' guide to chemical physiology.

The Treatment of Acute Infectious Diseases. By FRANK SHERMAN MEARA, M.D., Ph.D. New York: The Macmillan Company. 1916. (15s. net.)

IN this large volume the author endeavours to fill the gap left in so many text-books by the absence of details of treatment. Among the acute infectious diseases he includes acute rheumatism, malaria, infantile paralysis, foot and mouth disease, and psittacosis. Syphilis and tuberculosis are omitted. The first chapter gives a general outline of the treatment of fever, and the second deals fully with diet in that condition. In the succeeding chapters a short account of each disease is given, followed by the treatment in full detail, and at the end of each chapter the treatment is summarised. This method leads inevitably to a good deal of repetition, but makes the book useful for purposes of reference. In a good account of the treatment of typhoid fever it is surprising to learn that this disease is still treated in general wards in New York. Very proper emphasis is laid on the importance of the aural complications of influenza. Three weeks' quarantine for scarlet fever contacts is recommended, ten days being the usual period in this country. Tracheotomy in diphtheria is dismissed by referring the reader to surgical works, while intubation is fully described. A fuller description of the methods of feeding in diphtheritic paralysis would be

useful to students. One regrets to see the late distinguished Italian physician referred to as "the Italian, Bacelli;" and want of care in proof-reading is shown by such errors as "Berkfeld," "objectional," "practiced," &c. On the whole the author may be said to have attained his object. The book contains much that is good, and should prove useful to students and practitioners.

International Clinics. Edited by H. R. M. LANDIS, M.D.
Twenty-Sixth Series, 1916, Vols. I and II. London: J. B.
Lippincott Company. 1916. (35s. net per annum, four vols.)

THE reputation of *International Clinics* has been long established, and its value as a quarterly summation of all that is best and most progressive in the medical sciences is everywhere well known. The first two volumes of the twenty-sixth series conform in every way to the standard set in former years, and include so many lectures and articles of interest that it is impossible even to enumerate all of them in the limits of our space. Vol. I opens with a discussion of chorea by Drs. E. E. and W. H. Mayer, of Pittsburgh, who report favourably upon a new form of treatment, of which they have made successful trial in seven cases. It consists in the intravenous injection of ten minims of a 1 per cent phenol solution, repeated daily for three days, and in the cases cited has been followed by cure in periods varying from two to six weeks. Dr. Satterthwaite, of New York, writes on drug therapy in cardiovascular diseases; Dr. Beverley Tucker on pellagra, in the treatment of which he advocates the use of cacodylate of soda; Dr. Friedenwald on the early diagnosis of gastric cancer, and Drs. Parkes Weber and Schmidt on a case of severe secondary syphilitic nephritis with pseudo-chylous ascites. In the neurological section, Dr. J. P. H. Murphy deals with the institutional treatment of insanity; in the pathological, Drs. G. J. Saxon and Ellen P. Corson-White describe some regenerative and proliferative phenomena in their relation to tumour-formation; in the gynæcological, Dr. H. T. Byford writes on prolapse of the genitalia; and Dr. C. L. Nichols on the management of inevitable abortion. The most important surgical papers are

those on spina bifida and the surgical treatment of its more serious form, by Dr. W. W. Babcock, and on combined efforts to "annulify" surgical shock, by Dr. G. S. Foster. The rest of the volume is occupied by a review of medicine for the year 1915 by Drs. F. A. Craig and J. Speese.

The initial article of Vol. II, by Dr. E. J. G. Beardsley, is on the indications for venesection, which include no less than twenty-four apparently widely different conditions. All of these, however, have in common an overloaded heart. Dr. J. B. Young writes on the treatment of tetanus in the light of experience gleaned from the war. In the section on medicine the chief articles are those of Dr. Canby Robinson on auricular fibrillation; Dr. P. K. Brown on the clinical manifestations of unusual abdominal lesions; Dr. T. A. Clayton on lung abscess following operations on the nose and throat; Dr. H. F. Stoll on the diagnosis and treatment of peribronchial tuberculosis in children—a contribution of much value, particularly in connection with diagnosis; Dr. J. H. Pryor on immobility of the diaphragm; and the section closes with an elaborate and very useful analysis of fifty cases of dysthyroidism by Dr. J. M. Swan, to be completed in the ensuing volume. The section of psychiatry is represented by two articles, the first, by Mr. T. A. Williams, on the management of some confusional states; the second, by Dr. P. E. Bowers, on the relation of mental defect to crime. The public health section is concerned with milk and dairy inspection, ventilation, and typhoid inoculation. In the surgical section Dr. Frank Martin's paper on colon resection and its indications, with its criticism of Lane's extensive claims, is a valuable contribution to the subject; Dr. A. E. Halstead writes on his operative results in rectal cancer; Dr. R. B. Osgood on orthopaedic problems presented by the war; and Dr. Maria Vinton supplies an illuminating paper on congenital deformities of the hands.

It will be seen that in the two volumes there is material to suit almost every taste. *International Clinics*, now as heretofore, is most cordially to be commended to the up-to-date practitioner.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

M E D I C I N E.

Shock at the Front. By W. T. Porter (*Boston Medical and Surgical Journal*, 14th December, 1916).—The blood-pressures of a number of soldiers in a first-line trench, 38 metres from the Germans, demonstrated normal arterial pressures. The number of wounded men who suffer from low arterial pressure is very large, much larger than most surgeons believe. Under proper treatment he believes that the greater part of these wounded can be saved. There is no essential difference between the low blood-pressure of man and that of other animals. His observations on animals show that when the diastolic pressure remains some time from 45 to 50 mm. it will not recover without aid. The blood accumulates in the abdomen, and the animal bleeds to death in his own portal veins.

The proper remedies are (1) gravitation, (2) injection of normal saline, (3) adrenalin.

The wounded with low blood-pressure should be placed on a special operating table heated with electricity, and with the feet 30 cm. higher than the head. He should be kept on the table till the diastolic pressure will remain almost normal. This requires time, an hour or more, and if his state is grave he may die before gravitation produces its effect. If therefore the diastolic pressure is less than 80 mm. normal saline should be injected slowly and stopped when the diastolic pressure reaches 80 mm. Should the pressure fall again, adrenalin is to be injected into a vein near the malleolus to keep the pressure above the danger point, until gravitation is able to maintain the pressure at a safe level. Transfusion of blood is indicated where death is threatened from slight but persistent hæmorrhage.—JAMES SCOTT.

The Treatment of Nephritis. By Cadis Phipps (*Boston Medical and Surgical Journal*, 20th January, 1916).—A number of cases are reported, and from a study of them the author suggests—(1) Any rigorous system of diet may, but should not, be so strict or continued so long that it may be distinctly harmful; (2) more freedom in the allowance of protein than is recommended in the "text-book" nephritic diet may be of apparently great advantage; (3) thyroid extract has perhaps a great value in the treatment of nephritis, and if given carefully is safe.—JAMES SCOTT.

SURGERY.

Fractures of the Lower End of the Humerus. By I. A. Arnold (*American Journal of Surgery*, December, 1916).—Permanent ankylosis at the elbow after fracture is rare except in certain compound and complicated fractures, and the outlook for future function is good, provided proper treatment is employed. The erroneous impression concerning the outcome of these cases is due to views formed from fractures in children, which should be in a class by themselves, and to the results in badly diagnosed cases. The mistake is to treat fractures not individually, but on the basis of one definite lesion. Again, opinions should not be formed six or eight weeks after the injury, because patients often exhibit considerable improvement twelve or eighteen months later.

T-shaped fractures may easily be diagnosed as merely supracondylar since the line running into the joint may not be detected. These are best treated by a rigid splint, with only slight flexion at the elbow, and lateral pressure over the condyles. As there is danger of ankylosis, although the author has not seen it occur, the splint is removed on the fifth or sixth day, a little passive movement carried out, but not beyond the point of resistance, and then re-applied.

In the author's experience fracture of the internal condyle is as common as that of the external, but it is a graver injury. The external epicondyle is rarely fractured, but the internal is fairly often.

In children under twelve years the results of fractures of the lower end of the humerus are almost invariably good, because ossification occurs later, and a separated epiphysis remains better in position, once corrected, than a fracture. Although in general early movement is liable to increase the amount of callus, yet the author believes that in the elbow it is better to take the chances of exuberant callus being absorbed than to have permanent ankylosis.

—CHARLES BENNETT.

Torticollis. By Arthur L. Fisher (*American Journal of Orthopedic Surgery*, November, 1916).—Torticollis as a term was first used by Rabelais in the early sixteenth century; as a surgical condition it was described by Isaak Minnius in 1641.

Summation of the best evidence on the pathological anatomy points to there being a primary degeneration of muscle fibre followed by an increase in the connective tissue. No general agreement has been reached regarding etiology, but the principal groups of causes suggested are (1) traumatic, (2) infectious, (3) intrauterine.

Among defects accompanying or following torticollis are secondary skeletal alterations of which scoliosis (cervical) and asymmetry of the skull are the most common. There may also be ocular defects (not causative). Symmetrical narrowing of the field of vision has been observed, but not nystagmus. Other occasional accompaniments are atrophy of the entire half of the body, lowered temperature, small hand and foot on the same side, smaller lung excursions on the same side, difference in the carotid pulse, and lowered intelligence.

Diagnosis is usually easy, but rotary luxation, cervical Pott's disease, or cervical rib may offer resemblances.

Treatment consists of subcutaneous tenotomy or, better, the open operation. Part of the trapezius and of the scalenus anticus may have to be divided in addition to the sterno-mastoid. Mikulicz sometimes removes the whole sterno-mastoid, while Wullstein operates on the sound side and shortens the muscle there.

—CHARLES BENNETT.

Books, Pamphlets, &c., Received.

- A System of Case-taking, with Explanatory Notes, by George William Ross, M.A., M.B., and Julian Loudon, B.A., M.B. Authorised for use in the Faculty of Medicine, University of Toronto. Toronto: The Macmillan Co., Limited. (2s.)
- The American Year-Book of Anæsthesia and Analgesia, by F. H. M'Mechan, A.M., M.D. New York: Surgery Publishing Company. 1916. (\$4.)
- Manchester Babies' Hospital, Slade Lane, Levenshulme, Medical Registrar's Monthly Reports, August, 1915, to July, 1916. Manchester: Longmans, Green & Co.
- Transactions of the College of Physicians of Philadelphia. Third series. Vol. XXXVII. Philadelphia: Printed for the College. 1915.
- The Basle Anatomical Nomenclature (BNA): Being an Alphabetical List of Terms showing the Old Terminology, the BNA Terminology, and the suggested English Equivalent, by E. B. Jamieson, M.D., M.B., Ch.B. Edinburgh: W. Green & Son, Limited. 1916. (6s. net.)
- Collected Papers on Circulation and Respiration. Second series. Clinical and Experimental, by Sir T. Lauder Brunton, Bart., M.D., D.Sc., LL.D. London: Macmillan & Co., Limited. 1916. (5s. net.)
- Military Surgery, by Dunlap Pearce Penhallow, S.B., M.D. With Introduction by Sir Alfred Keogh, K.C.B. Original drawings by the Author. London: Henry Frowde and Hodder & Stoughton. 1916. (15s. net.)
- The Panel Doctor: His Duties and Perplexities, by T. M. Tibbetts, M.D., M.R.C.S. Birmingham: Cornish Bros., Limited. 1916. (1s. 6d. net.)
- Surgical Anatomy, by John A. C. Macewen, B.Sc., M.B., C.M. Second edition. London: Baillière, Tindall & Cox. 1916. (10s. 6d. net.)
- Les Blessures de l'Abdomen, par J. Abadie. Préface de J.-L. Faure. Collection de Précis de Médecine et de Chirurgie de Guerre. Paris: Masson et Cie. 1916. (4 fr.)
- Les Séquelles Ostéo-Articulaires des Plaies de Guerre, par A. Broca. Collection de Précis de Médecine et de Chirurgie de Guerre. Paris: Masson et Cie. 1916. (4 fr.)
- Formes Cliniques des Lésions des Nerfs, par Mme. Athanassio-Benisty. Préface du Professeur Pierre Marie. Collection de Précis de Médecine et de Chirurgie de Guerre. Paris: Masson et Cie. 1916. (4 fr.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR
THE FOUR WEEKS ENDED 24TH FEBRUARY, 1917.

	WEEK ENDING			
	Feb. 3.	Feb. 10.	Feb. 17.	Feb. 24.
Mean temperature, . . .	34·5°	34·2°	33·9°	39·5°
Amount of rainfall, . ins.	0·07°	0·01°	0·19°	0·47°
Deaths (corrected), . . .	364	379	431	425
Death-rates,	17·0	17·7	20·1	19·9
Zymotic death-rates, . . .	3·8	1·2	1·0	2·1
Pulmonary death-rates, . .	5·1	6·1	6·2	6·4
DEATHS—				
Under 1 year,	60	64	76	61
60 years and upwards, . .	104	114	126	149
DEATHS FROM—				
Small-pox, . . . . .	...	...	...	...
Measles,	4	10	7	16
Scarlet fever,	1	1	1	1
Diphtheria,	3	2	3	7
Whooping-cough,	10	12	12	18
Enteric fever, . . . . .	..	...	...	1
Cerebro-spinal fever, . . .	1	...	4	...
Diarrhoea (under 2 years of age),	3	1	4	5
Bronchitis, pneumonia, and pleurisy,	83	92	90	106
CASES REPORTED—				
Small-pox, . . . . .	...	...	...	...
Cerebro-spinal meningitis, .	...	2	6	2
Diphtheria and membranous croup,	37	32	28	42
Erysipelas,	29	27	19	19
Scarlet fever,	47	73	43	59
Typhus fever, . . . . .	..	...	...	...
Enteric fever,	3	1	1	4
Phthisis,	54	54	58	63
Puerperal fever,	6	6	6	3
Measles,*	155	191	261	246

* Measles not notifiable.

THE
GLASGOW MEDICAL JOURNAL.

No. IV. APRIL, 1917.

ORIGINAL ARTICLES.

INVERSION OF THE UTERUS: WITH NOTES OF
SIX CASES.

By WM. D. MACFARLANE, M.B., C.M., F.R.F.P.S.G.,
Professor of Midwifery and Gynaecology, The Anderson School of Medicine ;
Surgeon to the Royal Samaritan Hospital for Women.

INVERSION of the uterus is a rare complication of parturition. Beckmann, in the St. Petersburg Lying-in-Hospital, states that in 250,000 labours there was not a single case of inversion of the uterus. Madden records only one case in 190,833 deliveries in Dublin. Winckel, in 20,000 labours, has not had a single case, and, according to the statistics of the Glasgow Maternity Hospital, it has occurred three times in 51,290 cases.

PUERPERAL INVERSION ACUTE.

It is stated that in general practice, amongst the poorer classes, this condition is not so rare. One is inclined, however, to doubt the accuracy of this statement. It occurs equally

before and after delivery of the placenta, and cases have been reported occurring on the third and fifth day of the puerperium. The condition may be either acute or chronic.

Inversion of the uterus means the invagination of the wall of the uterus into the cavity of the uterus, or, in other words, the uterus is inverted when it is turned inside out. This condition only occurs when the cavity of the uterus is dilated, as in pregnancy or a submucous polyp. The large proportion of the cases occur after delivery at term.

From a gynæcological point of view, we have to deal with a chronic puerperal inversion, and an inversion of the uterus caused by the dragging of a growth situated at the fundus of the uterus. Several degrees of inversion have been recognised. The condition may be partial, when the fundus simply protrudes into the cavity of the uterus; or complete when the uterus is entirely turned inside out.

In complete inversion the fundus of the uterus lies just immediately within the vulva or may be protruding outside. In a few cases the placenta remains attached. In some very rare cases inversion of the uterus is associated with inversion of the vagina; this being so, the inverted uterus becomes prolapsed.

ETIOLOGY.

It undoubtedly occurs spontaneously: laxity of the uterine muscle occurring at the placental site, with a markedly dilated cervical canal, may constitute a predisposing cause. Sometimes, no doubt, pressure on the fundus of the uterus, as in Credé's manipulation, may contribute to the production of inversion. Traction upon the cord was also supposed to be another cause. A predisposing cause which must be considered is complete uterine inertia occurring at the end of the second stage of labour. The abdominal muscles in this condition not only force down the child, but also may push down the uterus after it. Another condition which may give rise to inversion is that of a short cord pulling upon the placenta during the progress of labour. It has been suggested that fundal attachment of the placenta is the chief cause of inversion. Precipitate labour has been the cause of inversion, the child being born with the woman in

the erect position, the weight of the child dragging upon the cord causing the inversion. Marked adhesion of the membranes after detachment of the placenta may contribute in some degree to this accident. The weight of the placenta drags on the uterus and thus helps to start the process of inversion. It may be stated generally that relaxation of the uterine walls is a necessary condition; if the uterus is markedly contracted inversion is impossible.

Beckmann has analysed one hundred cases, and states that the majority of those accidents occur spontaneously. Vogel, on the other hand, believes that nearly all cases are due to violence. It would seem that Vogel's contention is correct, because this accident is extremely rare in properly conducted labours. The condition, however, occurs even when the greatest care in the management of labour has been observed, and is one of such seriousness as to demand prompt recognition. Fifty per cent of the cases recorded by Beckmann and Vogel were in primiparous women. Inversion occurs as a rule suddenly, and is followed by alarming symptoms, the patient being considerably shocked. Convulsions and sharp hæmorrhage have been noted. Inversion of the uterus is a rare but important cause of post-partum hæmorrhage, and it may be that some cases of post-partum hæmorrhage are due to unrecognised partial inversion. In those acute cases of inversion, one can scarcely fail to notice the rapid change which takes place in the patient. So urgent, indeed, is her condition, that one actually thinks of hæmorrhage, rupture of the uterus, syncope, or inversion as the cause of the symptoms. Sometimes the symptoms are very trivial, and the condition may be in existence for some days without attracting the attention either of the patient or the medical attendant. Rarely the cervix retracts about the inverted uterus so completely that gangrene ensues. In all such cases an immediate vaginal examination should be made to determine the nature of the condition, and, when an inversion is present, it is as a rule easily recognised. The inverted uterus fills the vagina and in some cases projects from the vulva. On bimanual examination *per vaginam* the absence of the uterus in the hypogastric region is at once noted, and one can sometimes note a groove or a slit running across what remains of the cervix. Examination *per*

rectum reveals the absence of the uterus and the depression of the cervix where it is inverted more plainly than by vaginal abdominal examination. The cervix uteri, as a rule, is uninverted, and forms a band about the lower uterine segment. It is possible to insert the finger or sound between the cervix and the uterine 'wall, but it is not possible to find the uterine cavity.

As regards treatment in puerperal cases, it is well to remember the following facts from a prophylactic point of view:—

1. There should be no undue force used in the employment of Credé's method.

2. There should be no dragging of the cord.

3. One should make sure that the uterus is firmly retracted in all cases.

Spontaneous reduction of the inversion is said to occur especially when inversion is partial. If the inversion is complete this would not occur. Reduction of an acute inversion is generally accomplished without much difficulty, especially when the whole uterus is markedly relaxed. Sometimes there is difficulty in the reduction, and it is generally due to Bandl's ring. If the placenta is attached to the uterus, it is generally removed, though some recommend the reposition of the uterus with the placenta still adherent. In replacing the uterus, the hand should be inserted into the vagina, with its back towards the sacrum, and the fingers directed well forward towards the anterior abdominal wall in the axis of the brim. The mistake is very frequently made of pressing backwards against the sacrum instead of in the axis already mentioned. Before attempting reduction, if there is marked shock, this must be carefully overcome. In those cases where inversion has not been noticed for a few days after delivery, and if the cervix has contracted firmly, the reposition of the uterus may be very difficult.

In unrecognised cases sepsis may supervene. The patient may have considerable pain, offensive discharge, rapid pulse, and elevation of temperature. As the operation of reduction is a painful one, it is wise to anæsthetise the patient. The *gynæcologist* deals as a rule with the puerperal inversion in the chronic stage.

CHRONIC INVERSION.

In those cases the invagination of the fundus uteri into the uterine cavity may come as far as the internal os, or the inversion may be into the cervix or into the vagina. This condition creates a funnel-shaped cavity into which both adnexa are drawn.

In cases of chronic inversion, examination *per vaginam* reveals a soft polypoidal body which is the uterus, and this can be traced to the external os. The finger when examining *per vaginam* easily detects the junction between the inverted and uninverted part of the cervix, and the uterine sound when introduced does not enter the cavity of the uterus, but meets all round the inverted cervix. The uterine surface is smooth, generally very red, and may present two abdominal openings at the lowest part of the inversion. A recto-abdominal bimanual examination is the surest way of recognising this abnormality, and if there be much rigidity of the abdominal muscles, or a thick layer of adipose tissue, the administration of an anæsthetic greatly facilitates the examination, and enables one to feel the cup-shaped depression instead of the rounded fundus of the uterus. A submucous myoma in the vagina may cause difficulty in making a correct diagnosis. It is very important to distinguish those conditions; the most common error is to mistake an inversion of the uterus for a myoma, and if an operation is performed under this idea the result may be serious. In all cases the possibility of inversion should be excluded, and this can be done by remembering the relation of the tumour to the cervix and uterine body.

Where the cervix is not completely obliterated—that is to say, where the cervix is partially preserved—the examining finger can feel the point of union with the tumour of the inner wall of the cervix. A submucous fibroid, if pedunculated, and coming through the cervix, or should it happen to be in the vagina, permits the finger to get past its pedicle into the cervical cavity. The uterine sound may be employed in the differential diagnosis, and, as already stated, meets with the resistance of the inverted ring of the cervix. In the case of a

submucous fibroid, the sound slips past the growth and goes into the normal or perhaps enlarged uterine cavity. Bimanual examination *per rectum* and abdominally is the best method of making a diagnosis. In inversion the funnel-shaped depression is discovered, whilst in uterine myomata the fundus uteri is in normal position, of normal contour, unless enlarged or altered by the presence of other fibroids.

In partial inversion with the fundus still above the cervix, considerable difficulty may be encountered in forming an accurate opinion. Careful bimanual examination, however, reveals a small uterus with a marked fundal or lateral depression. When the tumour is in the vagina, be it inverted uterus or pedunculated myoma, the signs are not by any means distinct; this occasions much difficulty unless there has been a careful bimanual examination. Both tumours may be of equal size. The uterine polyp, however, is either firmer or softer than the uterus; a cystic polyp may give the sensation of being hollow and resemble the body of the uterus. Sometimes the cervical canal is obliterated, due to the submucous polyp being adherent to the endometrium: but here the bimanual examination would reveal the fundus of the uterus in normal position. Inversion of the uterus when caused by a tumour of fundal attachment presents all the signs of inversion. The feel and appearance of the tumour is in marked contrast with that of the uterus, especially if submucous fibroid has had its blood-supply interfered with, and is beginning to slough. Prolapsus uteri is not likely to be mistaken for inversion; the obliteration of the fornices, the external os, and the body of the uterus being determined by examination bimanually and by the use of the sound, would show the case to be one of prolapse. If prolapse is caused by the dragging of a fibroid attached to the cervix, and this is accompanied by distortion of the external os, some little difficulty may be encountered. The combination of prolapse with inversion of the uterus is extremely rare. The differential diagnosis may be thus shortly stated:—Employ an anæsthetic if the muscles of the abdomen are rigid, or if there be much adipose tissue in the abdominal wall. Always examine the case bimanually *per rectum* and *per vaginam*. The use of the uterine sound may be helpful, and

remember that the following conditions have to be differentiated from inversion :—

1. A polyp in the vagina, simple or with an adherent pedicle.
2. A submucous polyp.
3. A submucous polyp with partial inversion.
4. Prolapse of the uterus.
5. Prolapse of the uterus with inversion.

The symptoms of chronic inversion of the uterus are hæmorrhage, pain in the pelvis of a bearing-down character, and generally an accompanying anæmia. The hæmorrhage is the most important symptom, menstruation being profuse, and there is generally some accompanying metrorrhagia. The bearing-down pain is similar to that complained of in prolapsus uteri; at times it is very acute, and at other times it causes little or no discomfort. The anæmia, especially if accompanied by any signs of increasing weakness, may make one suspect malignant disease. Inversion of the uterus sometimes results from malignant disease of the body, especially in sarcoma. The treatment of this displacement of the uterus is undertaken as follows:—Either (1) by taxis; (2) long-continued pressure; or (3) by operative treatment. In recent cases, taxis often easily reduces the inversion. Under an anæsthetic, pressure is made by the fingers into the uterine wall near the cervix, in endeavouring to return first of all that part of the uterus which has been last inverted. The following methods may be employed in performing reduction by manipulation :—

1. Insert the whole hand into the vagina, surrounding the isthmus of the uterus within the cervix with the fingers and thumb. Make pressure upon the fundus with the palm of the hand, and counter-pressure upon the cervical ring above through the abdominal walls.

2. Place the thumb and middle finger against the uterine horns, make pressure first upon one and then upon the other, and after reinverting the horns replace the fundus, counter-pressure being maintained as in No 1.

3. Make pressure with the tip of the fingers against the lateral wall of the lower uterine segment, upwards and forwards, while counter-pressure is maintained from above.

4. Insert two fingers into the rectum and make traction upon the cervical ring; at the same time pressure is applied by the other hand to the fundus.

5. Insert two fingers into the rectum, the forefinger of the other hand in the bladder through the dilated urethra, making contraction upon the cervical ring, while the two thumbs press upon the fundus of the uterus.

The first method is the most useful to practise. If the inversion has become chronic—that is to say, is of some months' standing—it is not likely that manipulation will help, and it is to be remembered that much handling or force may either perforate the uterus or cause such injury as to result in sloughing. The treatment of inversion by long-continued pressure is best undertaken by an instrument called the repositor. White, Aveling, and others have used the repositor, and have reported many successful cases. The repositor, as used at present, is a perforated cup-shaped disc, fitted with a stem, which may be straight or may have a perineal and pelvic curve. Elastic bands, fixed with a belt and supported by braces over the shoulder, are fixed to the lower end of the repositor. The waist-belt is fitted to the patient and is secured by braces, and the cup of the repositor is applied to the fundus of the inverted uterus, and, by means of the elastic bands fixed to the repositor on the waist-belt, continued pressure is maintained. It is essential to keep the patient in bed, and as there is considerable pain caused by this method, the patient requires to be kept under small doses of morphia. Every few hours the bands must be readjusted, and when the fundus is pushed up to near the internal os, it may be necessary to use a smaller cup on the repositor. Some say that when the fundus has been reduced within the internal os, there is no longer need of the continued pressure, as the uterus will reinvert itself. Re-inversion of the uterus by means of the repositor may take place in about forty-eight hours, even in cases of inversion of many years' standing.

TREATMENT BY OPERATION.

It is sometimes impossible to reduce the uterus either by taxis or continued pressure, and in those cases recourse must be had to operative treatment. The following methods are employed:—

1. *Küstner's method*.—A transverse incision is made into the pouch of Douglas. After the peritoneum has been opened, the index finger is introduced into the inversion funnel of the uterus: a longitudinal incision is now made through the posterior wall of the uterus, beginning 2 cm. below the inverted uterus, and terminating about 2 cm. above the os externum, and extending all the way down to the peritoneum. The re-inversion of the uterus is carried out by fixing the funnel with the index finger in the pouch of Douglas, and pressing the fundus in with the thumb of the same hand. The incision in the uterus is closed by deep and superficial sutures, and the pouch of Douglas is then sutured.

2. *Laparotomy with dilatation of the cervical ring from above and traction upon the fundus*.—In a few cases it may be necessary to perform hysterectomy. It has been recommended when the fundus of the uterus is necrotic that a clamp should be passed across the uterus at the lower uterine segment, just below the external os, and the mass below the clamp removed either by a knife or by the cautery.

The following cases have occurred in my hospital and private practice, and may be shortly quoted here:—

CASE I.—*Acute complete inversion of the uterus. with marked shock and syncope.*

Mrs. A., 28 years of age, primipara, was seen by me shortly after her delivery. Her labour had been somewhat protracted, and had been terminated by the use of forceps. The perineum had been slightly lacerated, there was no vaginal tearing, and the placenta had separated naturally about half an hour after delivery. No traction on the cord, and no undue pressure upon the fundus had been made. There was no uterine hæmorrhage. An hour after delivery, shortly before her medical attendant

was leaving her, she complained of great pain and feeling very faint. Her pulse-rate was noticed to be over 130: she was exceedingly pale, and had all the signs of an internal hæmorrhage. On examining her abdomen I failed to find the uterus. Examination *per vaginam* revealed a large tumour there. This proved to be a completely inverted uterine body. The alarming shock was treated by the use of rectal saline, and a quarter of a grain of morphia was given hypodermically. The vagina was packed with iodoform gauze round the inverted uterus. The saline was repeated in a couple of hours into both breasts, as it was not being retained *per rectum*. As the patient's condition improved, she was anæsthetised with ether and the inversion was easily reduced by taxis. An intra-uterine douche was given: the cavity of the uterus was packed with iodoform gauze; the vagina was also similarly packed. A hypodermic injection of citrate of ergotinin was given. The packing was removed in twenty-four hours, and as the uterus seemed to be firmly retracted, it was not reapplied. The patient eventually made a good recovery.

CASE II.—*Partial inversion of the uterus with severe post-partum hæmorrhage.*

Mrs. M., 26 years of age, primipara, had an easy delivery, the third stage of labour being allowed to proceed naturally, and being completed without any force being applied to the fundus. The placenta and the membranes came away completely. Half an hour after completion of the third stage there was an excessive loss of blood, which blanched the patient seriously, and produced all the other symptoms of an alarming hæmorrhage. The uterus did not contract firmly after the separation of the placenta; it was gently massaged, and 1 c.c. of pituitrin given to help the uterine retraction. It was only on examining *per abdomen*, after the occurrence of the hæmorrhage, that the alteration of the uterine contour was manifest. On examination *per vaginam* there was a mass filling the cervical cavity, but not protruding into the vagina, and this was at once recognised to be the body of the uterus, and by taxis was reinverted. A hot uterine douche and normal saline were given, the uterus was packed with iodoform gauze and the vagina

likewise: saline transfusion was given into each breast, and a quarter of a grain of morphia hypodermically was administered. The end of the bed was elevated and the patient was kept in this position for forty-eight hours. There was some slight febrile disturbance for four days, but eventually the patient made a good recovery.

CASE III.—*Complete inversion of puerperal uterus with acute sepsis.*

Mrs. K., 20 years of age, was admitted to my wards one week after her delivery. She was sent in to hospital for falling of the womb, accompanied by a very profuse and offensive vaginal discharge, and with complete retention of urine since the birth of her child. The delivery had been an instrumental one, and there had been a prolonged narcosis. She had never been well since her delivery, there being some slight fever, with free uterine hæmorrhage, which had blanched her, and the discharge on admission was very offensive. Her pulse-rate on admission varied from 136 to 150, and the temperature varied from 102° to 104° F. On examination, there was found protruding from the vulva a dark purplish swelling covered with a dark shaggy mass of necrosed tissue, and presenting all the appearance of a sloughing uterine myoma. Under an ether anæsthetic a bimanual examination was made, the total absence of the fundus uteri was discovered, and the cup-like depression above the symphysis pubis was very apparent. The reduction of the inversion was easily accomplished, the cavity of the uterus was swabbed out with iodine solution and packed with sterile gauze, which was removed in twenty-four hours. The patient suffered markedly from septic absorption and had repeated rigors, but at the end of six weeks the temperature was perfectly normal, and her anæmia was treated by the use of colloidal iron hypodermically. She eventually made a very good recovery.

CASE IV.—*Chronic puerperal inversion of the uterus.*

Mrs. T., 36 years of age, multipara, was admitted to my wards suffering from uterine hæmorrhage of four months' duration.

This hæmorrhage had been continuous since her confinement; she stated that the baby "weighed fifteen pounds at birth," and that she had suffered considerable pain for the first fortnight of the puerperium: since then the pain disappeared, but the hæmorrhage had been continuous. Her blood-count showed a diminution of red corpuscles to about three million. On examination *per vaginam* there was a large quantity of fresh hæmorrhage coming from a pear-shaped tumour which filled the whole vagina. The tumour bled freely on handling, was slightly sensitive to touch, was of a bright red colour, and protruded from the cervix. On examination bimanually no fundus could be felt, and there was a funnel-shaped depression felt suprapubically. It was not possible to reduce this swelling by manipulation, long-continued pressure likewise failed, and so reinversion of the uterus was attempted by division of the posterior wall of the cervix. In endeavouring to reinvert the uterus through this incision the tissue suddenly tore, and there was considerable hæmorrhage. It was then deemed advisable to perform a vaginal hysterectomy. This was done, and the patient made an uninterrupted recovery.

CASE V.—*Inversion caused by submucous fibroid.*

Mrs. C., 46 years of age, was seen by me on account of foul vaginal discharge of a fortnight's duration, and a history of metrorrhagia, which had lasted for about three months. The patient was exceedingly anæmic, her pulse-rate was 140, the temperature was varying from 102° to 103°, and it was quite evident that she was suffering from acute sepsis. On examining her *per vaginam* a dark sloughing putrid swelling was lying outside of the vagina. This was attached to what eventually proved to be an inverted fundus, the combined examination *per abdomen* and *per rectum* revealing the absence of the uterine body above. As the fundus uteri was also gangrenous, I adopted the plan of clamping the uterus in the healthy tissue and dividing the parts by the actual cautery. The clamp was removed after forty-eight hours, and the patient, although she continued to live for some ten days after the removal of the tumour, died with all the evidences of acute septic infection.

CASE VI.—*Partial inversion of uterus with carcinoma of fundus uteri.*

Mrs. S., 42 years of age, was seen by me on account of uterine hæmorrhage with offensive watery discharge. The vagina was filled by a soft pliable mass of tissue, which broke down very easily upon examining, and it was found that this mass of tissue was firmly united with what eventually proved to be the fundus of the uterus, which was partially inverted. This was very easily determined by recto-abdominal examination. The curette and cautery were used to remove the diseased tissue, and douching with a drachm of tincture of iodine to a pint of water night and morning for a fortnight was employed, and thereafter vaginal hysterectomy was performed. Free drainage was maintained *per vaginam*, and the patient put in the Fowler position. She eventually made a good recovery. The patient remained alive for eight months after her operation, and eventually died from recurrence of the malignant mischief.

To recapitulate: There are two forms of inversion of the uterus—

1. The acute type which occurs immediately after labour and is often due to violence.

2. The chronic type which may be a survival of the acute form, or may be due to the expulsion of a tumour attached to the fundus of a non-puerperal uterus.

3. The tumour may be innocent or malignant; the commonest cause is a submucous fibroid arising from the fundus uteri.

THE EFFECTS OF CINEMATOGRAPH DISPLAYS
UPON THE EYES OF CHILDREN.

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My attention was first drawn to this matter in the spring of 1915, when I found in a school in Partick a large percentage of the children in one class of the ages of from 3 to 6 years presenting a more or less marked strabismus convergens. In most of the cases there was a complete absence of refractive error and astigmatism. The class was being educated by the Montessori method. This system of education, as is well known, dispenses with books and writing on paper. The children are taught by blocks and games. The class was held in a large well-lighted room, about the size of two ordinary schoolrooms, and it contained a sand-pit, a pond with boats, a cradle with a large doll, plants, goldfish, and birds. There is thus an entire absence of strain upon the eyes, and most of the education is by mental processes. Mr. Leslie Paton¹ has recommended these classes for the education of children with defective sight, and even for cases of blindness.

I had been in the same school about three years previously, before the Montessori method had been introduced, when the infant classes were conducted in an old building with the children crowded into small rooms, not particularly well lighted. There was then about the usual incidence of squint.

Upon enquiry I was informed that the children were attending cinematograph displays twice or thrice a week, two nights and Saturday afternoons. The teachers stated that they had noticed the increased prevalence of squint after the children began frequenting these performances. The Montessori class had been instituted about a year prior to the introduction of the "picture houses" into the district. The children belonged to a working-class population.

In the course of my inspection of the school children in the other schools of the Board, I continued to watch very carefully for any signs of squint or other damage to the eyes. It should be mentioned that I do not examine every child in the schools. The children submitted to me for examination are selected by the school doctors, or nurses, or by the teachers, and all children wearing glasses are sent to see whether the lenses require changing. In addition, any child who complains of eye-strain may ask to be submitted for examination, and as this involves an absence from the class for a time it is not unpopular.

I found an increased number of cases of strabismus convergens among the youngest children in certain schools. These were all in similar districts to that in which the high incidence of this affection had been first noticed. In some of these schools children told me that they were given a sixpence and even a shilling a week for pocket money. On the other hand, in districts in which the children were not allowed to attend the "picture houses," except at rare intervals, there was no marked increase in the amount of strabismus.

In a number of the older children who were attending cinematographs regularly, I found congestion of the optic nerve and complaints of eye-strain. I have also seen in the School Clinics such cases as Mr. Bishop Harman² has recently referred to, viz., children who could not pass the vision test, and who had no objective cause, but were able to pass the tests satisfactorily after a period of rest. Apparently they have been attending cinematograph displays as frequently in London as in Glasgow. Parents in the School Clinics have told me that their children complained of headaches after the "picture houses," and that they have therefore forbidden any further attendance. The teachers stated that they could not retain the attention of children who had spent two or three hours the previous night in a picture house.

In the autumn of 1915, in submitting my report to the Govan Parish School Board on the eyesight of the school children for the year 1914-1915, the following statement was made:—

"Eyesight and cinematograph performances.—While it is impossible to assert with confidence that there is an absolute increase of the number of children at all ages who are suffering

from squint, yet there are good grounds for believing that the very frequent attendance of the youngest children at cinematograph performances is exercising a very deleterious effect on their eyesight. This probably accounts for the opinion which I have formed that there is an increase in the number of very young children who are suffering from squint.

"In this connection I should like to cite the facts observed in the infant department of one school. It must be borne in mind that the observations made in this school cannot yet be applied to the conditions prevailing throughout the parish. During the examinations it soon became apparent that there were many children in this school suffering from squint. In many cases there was a notable absence of refractive error and astigmatism which characterise most cases of that affection.

"A similar increase has been observed in the number of cases of squint attending the School Clinics and the Eye Infirmary.

"Upon inquiry, I was informed that many of the children frequently attended cinematograph performances. Such excessive attendance in the case of very young children has a deleterious effect upon the eyesight.

"In view of these considerations, I would respectfully submit for the consideration of the Board the utility of asking the teachers to instruct the children respecting the injurious effect which frequent attendance at the picture houses is likely to have upon their eyesight."

Reference was also made to the subject in my report submitted in the autumn of 1916 for the work of inspection during 1915-1916.

Since my attention was first directed to this matter, I have investigated carefully the onset of the squint in all cases which I have seen at the Glasgow Eye Infirmary, the Govan School Board School Clinics, in the Ayr County Hospital, and Ayr School Clinic, and I have come to the conclusion that the first appearance of strabismus convergens is attributable in a large number of cases to mental excitement or fright. Many infants show signs of squint before they acquire the ability to direct both visual axes on the same object. After the binocular sense has been developed, it is difficult for a squint to start. Parents

often state that the child was first noticed to squint after a fright or an attack of some childish ailment. Once the child has squinted it does it more easily the second time; and so what was intermittent at the start becomes more constant after a time, until it develops into a permanent defect, usually with more or less amblyopia of the squinting eye. Donders taught that strabismus convergens was due to excessive accommodation as the result of hypermetropic astigmatism. Worth's researches show that the great bulk of squints are found with a medium amount of hypermetropia, while from 2 to 6 years of age, at which period squint usually commences, nearly all children are hypermetropic, and the worst cases rarely squint.

It seems to me clear, therefore, that the increased prevalence of squint among children of from 4 to 8 years is directly attributable to the excitement and nervous strain they are under while watching the more exciting and hair-breadth escapes seen in many cinematograph displays.

It will be seen that the grounds on which I object to the frequent attendance, and the danger, I fear, of such frequent attendance on the part of young children, is different from, and supplementary to, that to which the two recent writers on this subject have drawn attention. Mr. Bishop Harman³ points out—and I am quite with him in this—that the bad effects are due to (1) glare; (2) flicker; (3) rapidity of motion; (4) concentration of attention; (5) duration of exhibition. He discusses these elements in detail, and holds that the best protection for the child will be obtained by (1) reasonable illumination of all parts of the hall not directly beside the screen; (2) a better movement of the film so as to reduce flicker, and the withdrawal of films immediately they are damaged; (3) the picture to move at a slower rate; (4) more intervals and the interposition of exhibitions other than that of the optical lantern; (5) limitation of the shows to one hour, and the prohibition of "repeats"; (6) the children to be seated in the "optimum" position, which is in the centre line and as far from the screen as thrice its height. He would allow attendance once a week under these conditions.

Dr. James Kerr⁴ refers also to the danger of glare and flicker,

which he rightly points out are worse in the cheaper halls, which most of these children attend.

I have not referred to the indirect effects of bad ventilation, or late hours, or the questionable morality sometimes inculcated by the subjects depicted on the screens; nor to the fact that the Saturdays are given to children for open-air exercise.

In conclusion, I may say that every day in the School Clinics, in the school inspection, in the Eye Infirmary, and in the Ayr Hospital, I am seeing young children who have developed squints while frequenting cinematograph displays, and older children with congested optic nerves and eye-strain from the same cause. Once a month is all that I would allow for school children; and I would strenuously object to the introduction of the cinematograph into school teaching, except at rare intervals.

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VISUAL DEFECTS: REFRACTIVE AND FUNCTIONAL.

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MUCH has been written recently on visual defects arising from shell shock, concussion, or the intense emotion associated with modern warfare. It may be of interest under the circumstances to review some of the ordinary varieties of visual defect known to exist in the general population under pre-war conditions. In the first place, defective vision is usually due to errors of refraction, *i.e.*, ametropia, but it is also found where there is no ametropia or any recognised lesion of the neuro-optical apparatus, and to the latter variety the term functional may be applied.

REFRACTIVE DEFECTS.

To what extent does ametropia exist in the population, and what is the relative prevalence of the varieties—hypermetropia and myopia? This is in great measure unknown, especially among adults. Yet, for various reasons, some knowledge of this subject is necessary. For instance, in order to provide standards for comparing one period or locality with another: to indicate what percentage of men we should expect to have errors of refraction—and, in consequence, should be wearing spectacles—or should be rejected for military service; or again, for estimating the effect of environment, heredity, or even of school medical treatment. This information can only be obtained by examining all the children and all the adults in certain areas, or representative numbers.

We already have some knowledge of the prevalence of ametropia among school children—especially of myopia. In the medical treatment of school children for visual defects, as a rule only those found to have a fair amount of defective vision, as revealed by inability to read the distant test types, are

examined and treated. In cases of myopia the ability to read these types is affected by small amounts of this defect, and so this method of selection is not likely to overlook these cases. On the other hand, cases of hypermetropia are certain to be overlooked by this method.

In an examination of over 2,000 children in Lanarkshire schools, where all the children who had even slight degrees of visual defects were examined by retinoscopy, I found 2 per cent of myopia and 3 per cent of mixed astigmatism. As the mixed astigmatism of childhood usually passes into myopia during adolescence, then these combined represent say 5 per cent of myopia in school children of all ages.

These figures agree with those found by Dr. Wright Thomson¹ for over 50,000 children in the Glasgow schools; but myopia increases during adolescence, and so in adult life the amount must be greater.

The percentage of hypermetropia among children is estimated by various observers² at or about 27 per cent; but hypermetropia lessens during adolescence. From these figures one might make a rough estimate of the prevalence of ametropia and say there is :

In children—		In adults—	
Of myopia, . . .	5 per cent.	Of myopia, . . .	10 per cent.
Of hypermetropia, 27	„	Of hypermetropia, 20	„

There remained in the Lanarkshire children a considerable number who had defective vision but no error of refraction, disease, or other defect to account for it. These cases may be classed as functional.

The prevalence of ametropia, however, is a subject that calls for further consideration.

FUNCTIONAL DEFECTS.

Visual acuity.—The amount of vision recorded by reading the test types is usually a rough indication of the amount of ametropia present, but there is no proportionate relationship. In the 50,000 Glasgow children Dr. Thomson found that, while the percentage of ocular defects remained constant all over the

city, the percentage of defective vision showed remarkable variation. In the poorest and most closely built districts the percentage of children with defective vision was 53, and in the open districts, in the outskirts of the city, it was only 20 per cent.

This reveals a large amount of defective vision that is independent of errors of refraction, and in some way related to imperfect environment. These cases may also be classed as functional. We have no corresponding comprehensive observations on the vision of adults.

When a person—whose eyes seem to be normal—declares an inability to read, say, beyond the large letters on the card, then it is wise to follow the old rule of testing the vision through a piece of plain glass. One frequently discovers children and occasionally adults with $\frac{6}{60}$ vision, who, in this way, promptly read $\frac{6}{6}$ or $\frac{6}{9}$. The result, of course, is not due to any refracting quality in the glass, but probably to suggestion. This peculiarity is well known and is, in my experience, fairly common. The same peculiarity is sometimes found in soldiers with defective vision that has followed shell-shock. The following case may be of interest at this point.

Hysterical amblyopia in a girl.—This patient, aged 14 years, comes of a stock in which there is mental instability. At 5 years of age she went to school, and soon thereafter it was discovered that she had defective vision, and glasses for constant use were prescribed. Some years ago she complained of headache and was much given to weeping. At times she sat quietly and would not speak. She had "fits," and was considered to have some kind of mental trouble. Later, her vision got worse and worse, and as she seemed to be quite blind, she was, after medical examination, placed in an institution for the blind, where she remained for two years and learned Braille reading, &c. At this stage she was brought to me for examination and a report on her condition, as her friends suspected she was not so blind as she pretended to be.

I found her to be a large healthy-looking girl. Her pupils reacted to light, the fundi seemed perfectly normal, but I failed

to get her to admit that she could distinguish light from darkness. I was not convinced of her blindness, and after an interval of some weeks examined her again. Now she turned her eyes away from my direction, and I got her to admit that she could see me: then she read $\frac{6}{50}$ and, with some coaxing, she read $\frac{6}{36}$. She has 4 D. of hypermetropic astigmatism, and with her correction she read $\frac{6}{18}$ with each eye and with both eyes $\frac{6}{9}$ and J.1.

I do not know what her condition was two years before I saw her, but I suspect she has never really been blind, and so I venture to call her case one of hysterical or psychic amblyopia.

This girl has a high degree of astigmatism. Has this any relation to her blindness? May it have acted in a suggestive manner on a mind predisposed to receive and exaggerate indications of disorder or defect?

These are examples of temporary or functional defect, due probably to enfeeblement or abeyance of some higher or cortical centre. Even if an eyeball presents no discoverable defect or disorder, we cannot say that it is not responsible for visual defect or discomfort; for the whole neuro-optical apparatus has to be considered, and it seems as if lesser degrees of psychic amblyopia were not uncommon even among school children.

In another variety there is discomfort rather than defect, disturbance rather than abeyance, or, in other words, neurasthenia. The following is an example:—

Retinal asthenopia.—J. M. is a schoolboy, who was brought to me on account of inability to read for any length of time, as his eyes became painful and the print blurred. His vision was full; refraction, muscle balance, and fundi were normal. The boy was like other boys, joined in their games and enjoyed outdoor life. I tried him with biconvex lenses of various strengths for his school work without other than temporary relief. On general examination nothing abnormal was found, but I learned that he had nocturnal incontinence of urine, and on examining the urine found it to contain albumen. The amount of albumen

varied from time to time and occasionally it was absent. It might be called the albuminuria of adolescence, but it was usually worse in cold, damp weather. I sent him to consult an eminent colleague, who agreed with me in his opinion of the case. The boy's education was interrupted several times, and in the end he was sent to a dry country district, where he gradually recovered.

We call this condition retinal asthenopia, but we might just as well call it cerebral asthenopia.

Another example is the middle-aged female who comes to us with a multiplicity of aches and with a bundle of prescriptions. She has pain in the eyeballs, pain around the eyeballs, great discomfort when she reads, &c. Her eyes seem normal, and treatment is of little avail. Some of these people are undoubtedly given to over-eating.

In both these examples there may be backgrounds of susceptibility, but there is reason to suspect toxæmia as a determining cause.

Shell shock is some undoing of the nervous system, frequently patchy in distribution, affecting one or more highly specialised functions. When the visual area is affected there may be defective vision, or discomfort in the use of the eyes, contraction of the visual fields, night blindness, blepharospasm, the manifestation of latent hypermetropia, and the reproduction or relapse of nystagmus.

These diverse manifestations are not peculiar to warfare, for most of them are to be found in the various disorders under review, and the subject should be studied as a whole.

Does the fear, horror, fatigue, or the concussion of modern warfare produce loss of efficiency, loss of control, or loss of function?

This review of the varieties of ordinary visual defects establishes the existence of one that is independent of ocular defect, a functional amblyopia—that is, associated with imperfect environment or toxæmia in some form, and that, with predisposition, the loss of function may be complete.

A similar disorder of the nervous system probably exists in

ordinary and in shell shock cases. There is no peripheral irritation in the ordinary cases, and the indications from them are rather against concussion or trauma as being essential etiological factors in visual and other defects following shell shock.

Sleep, narcosis, hypnosis, &c., indicate an inherent liability, in the higher cortical areas, to abeyance, or to temporary loss of efficiency or temporary loss of function.

REFERENCES.

- ¹ H. Wright Thomson, "Eyesight of the poorer city children," *British Medical Journal*, 1907.
 - ² Barrington and Pearson, *Eugenics Laboratory Memoirs* V.
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Obituary.

ON SERVICE.

CAPTAIN JOHN ALEXANDER HARPER, M.C., M.B., CH.B. GLASG.,
ROYAL ARMY MEDICAL CORPS.

WE regret to announce the death of Captain John A. Harper, M.C., R.A.M.C., who was killed in action in France on 14th February. The second son of Mr. A. R. Harper, J.P., of Govan, Captain Harper was educated at Hillhead High School and afterwards at Glasgow University, where he took the degree of M.A. in 1908 and those of M.B., Ch.B. in 1912. He then acted as resident physician in the Western Infirmary, and after spending some time in America and India, was appointed outdoor house surgeon to the Glasgow Royal Maternity Hospital. On the expiry of this appointment he began practice in Ibrox. Captain Harper, who also held the appointments of dispensary surgeon to the Samaritan Hospital and visiting physician to the Elder Cottage Hospital, Govan, joined the R.A.M.C. in December, 1915, and in March of last year he was awarded the Military Cross for conspicuous bravery at Ypres.

CAPTAIN HUGH BARR, M.D. GLASG.,
ROYAL ARMY MEDICAL CORPS.

WE regret to announce that Captain Hugh Barr, R.A.M.C., died of wounds on 21st February. He was a son of Mr. Hugh Barr, of Paisley, and was educated at Glasgow University, where he took the degrees of M.B., Ch.B. in 1905. He afterwards studied at King's College, London, and at Hamburg, and he took the D.P.H. of the London College in 1909. Six years later he took

the M.D. of Glasgow University. After filling the posts of house surgeon to South Shields Infirmary and medical officer to the Brook Fever Hospital, Woolwich, he went to New Zealand, where he settled in practice at Alexandra, Otago. Returning home in 1915, he received a commission as temporary lieutenant in the R.A.M.C., and was promoted Captain after a year's service. His cousin, Temporary Captain G. F. Barr, M.B., Ch.B. Glasg., R.A.M.C., also of Paisley, died in France in March, 1916.

C. FRED. POLLOCK, M.D., F.R.C.S.E., F.R.S.E.

THE death of Dr. C. Fred. Pollock, of Buckingham Terrace, will be keenly felt as an irreparable loss by a wide circle of friends and patients in Glasgow. As a physician he won the gratitude of his patients by his professional ability and by his genial and reassuring manner, which brought hope and sunshine into many a sick room. As a friend he was one of the kindest, most sympathetic, and generous of men.

Dr. Pollock was a son of the Rev. John Pollock, M.A., and he was born at Baldernock in the year 1854. He received his school education in Glasgow Academy under Dr. Donald Morrison, and his medical education in Glasgow University, where he graduated as M.B., C.M. in 1880, and two years later took the degree of M.D. He also studied medicine at Tübingen and Vienna.

He had a penchant for the eye as a specialty, and this is reflected in the appointments which he held and the books which he wrote. As ophthalmic surgeon to the Royal Hospital for Sick Children, Ophthalmic Surgeon to the Central Dispensary, Assistant Physician City of Glasgow Fever Hospital, Assistant to the Professor of Physiology, Glasgow University, and Assistant to the Pathologist, Glasgow Western Infirmary, he did good work.

In 1885-6 he published *Aids to Ophthalmology*, in 1886 *The Normal and Pathological Histology of the Human Eye and Eyelids*, and in 1889 *Leprosy as a Cause of Blindness*.

Dr. Pollock was a well-read man and a close observer of human nature, and his conversation was brimful of interesting things. He was a good botanist, and spent much of his leisure time in the study of plant life. He was also an enthusiastic and successful photographer, his selection of viewpoints showing true artistic judgment.

He derived much pleasure from visits to Norway, but most of his holidays were devoted to the enjoyment of the beautiful scenery of his native land, of which he was passionately fond.

In his last illness he suffered cruelly from insomnia and cardiac dyspnoea, and in one of these attacks he died in the arms of his devoted wife, who had nursed him all through the bitter ordeal. He bore his sufferings without complaint. Thus passed from the ranks of our profession a man who was beloved by all who knew him.

CURRENT TOPICS.

APPOINTMENTS.—The following appointments have recently been made:—

Mrs. M. A. Benner, M.B., Ch.B.Glasg. (1897), to be Medical Officer of the Ante-natal and Child Welfare Scheme, Newport, Mon.

Royal Navy (21st February): Temporary Surgeon J. A. Macvea, M.B., Ch.B.Glasg. (1903), to *Pembroke*.

5th March: Temporary Surgeon J. S. Geikie, M.D.Ed. (Ayr), to *Agincourt*.

Royal Army Medical Corps (21st February): To be temporary Lieutenants—P. O. W. Browne, M.B., C.M.Glasg. (1891); M. Munro, M.B., Ch.B.Glasg. (1905).

22nd February: To be temporary Captains—Temporary Lieutenants H. Stewart, M.B., Ch.B.Glasg. (1914); D. J. Clark, M.B., Ch.B.Glasg. (1909); J. L. Cochrane, M.B., Ch.B.Glasg. (1909); R. Nichol, M.B., C.M.Glasg. (1890); W. A. Muir, M.D. Glasg. (M.B., 1908).

26th February: Captain H. C. D. Rankin, M.B., Ch.B.Glasg. (1911), to be acting Lieutenant-Colonel whilst commanding a Field Ambulance. To be temporary Lieutenant—T. T. M. Dishington, M.B., Ch.B.Glasg. (1904).

6th March: To be temporary Lieutenants—D. F. Brown, M.B., C.M.Glasg. (1893); W. Grier, M.B., Ch.B.Glasg. (1895).

10th March: To be acting Lieutenant-Colonel whilst commanding a Field Ambulance—Temporary Captain L. D. Shaw, M.B., Ch.B.Glasg. (1904). To be temporary Captain—Temporary Lieutenant W. M. Christie, M.B., Ch.B.Ed. (Shawlands).

12th March: Temporary Lieutenants to be temporary Captains—H. M. Wilson, M.B., Ch.B.Glasg. (1908); H. N. Rankin, M.B., Ch.B.Glasg. (1909); J. B. Robertson, M.B., C.M. Glasg. (1893); J. B. Stevenson, M.B., Ch.B.Glasg. (1903); W. J.

Dilling, M.B., Ch.B.Aberd. ; A. F. Wilson-Gunn, M.B., C.M.Glasg. (1896); A. R. Mitchell, M.D.Glasg. (M.B., 1889). To be temporary Captain—F. A. Murray, M.D.Glasg. (M.B., 1905). To be temporary Lieutenants—Ronald Stewart, M.B., Ch.B.Glasg. (1914); A. R. H. Geyer, M.B., Ch.B.Glasg. (1914).

Scottish Command Orders (9th March): The undernoted civilian medical practitioners have been appointed medical examiners of recruits in connection with the Volunteer Force:—W. Young, M.B., Ch.B.Glasg. (1903), Kilsyth: H. Doig, L.R.C.P. & S.E., L.R.F.P.S.G. (1902), Lennoxton.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS.—At the monthly meeting of the Royal Faculty of Physicians and Surgeons of Glasgow held on 5th March, the following resolution, moved by Mr. J. McGregor Robertson, and seconded by Dr. John Brown, was approved:—"That the Royal Faculty of Physicians and Surgeons of Glasgow approves of the principle of the organisation of the whole nation to secure the successful and rapid conclusion of the war, so that all fit persons shall be liable to be called on by the Government to render such service in naval, military, or civil departments as they may be deemed suitable for, due regard being paid to age, training, and circumstances; if and when this proposal is carried into actual practice by the Government the Royal Faculty will be prepared to render all possible assistance in the organisation of their own profession." At the same meeting Mr. Kaikobad Temoolji Jungalwalla, L.M.S. (University, Bombay), Albert Dock Hospital, London, was admitted (after examination) as a Fellow of Faculty, *qua* physician, not qualified to hold office.

USE OF COCAINE IN DENTISTRY.—The report of the Committee appointed to consider the authorisations granted for the use of cocaine in dentistry, and to advise whether or not they should be continued or modified, has recently been issued. The Committee sat nine times, and evidence was taken from leading representatives of registered dentists and the principal officials of the Incorporated Dental Society of Unregistered Practitioners, as well as from other witnesses.

The Committee are of opinion that while there is practically no evidence to show any prevalence of the cocaine habit amongst the people of this country, yet as a drug it is so uncertain and so potentially dangerous in its uncertainty that some restriction should be placed on its possession and sale.

The recommendations include the following :—(a) That preparations of cocaine containing more than one per cent of cocaine for use as local anæsthetics in connection with dental work should be procurable only from registered chemists or from persons or firms licensed for the purpose by the Home Secretary and subject to the condition that such preparations should be used for dental purposes only ; (b) that such preparations should only be procurable for use by registered dentists or members of a dental association, the conditions of membership of which have been approved by the Home Secretary ; (c) that persons practising *bona fide* as unregistered dental practitioners, and who can so satisfy their local authority, should be entitled to apply for registration for right to purchase preparations of cocaine containing not more than 1 per cent of cocaine.

The Home Secretary has given notice that the permission granted to persons *bona fide* engaged on 28th July, 1916, in practising dentistry but not registered under the Dentists Act, 1878, to purchase preparations containing not more than 1 per cent of cocaine for use solely as local anæsthetics in connection with dental work has been extended to 30th April, 1917.

THE CAMPAIGN AGAINST VENEREAL DISEASE.—At a meeting held in the M'Lellan Galleries, Glasgow, under the auspices of the Corporation, on 12th March, Bailie Duncan Graham presiding, an address on the importance of taking effective action against the prevalence and possible spread of venereal diseases was delivered by Sir Francis Champneys, Bart., M.D. He pointed out that the present time afforded a great opportunity for dealing with this problem. In the first place, all wars were accompanied by an intensification of venereal diseases. Then there was the fact that the Royal Commission had now reported, putting the information on these diseases in a more satisfactory and tangible form than ever before ; while, in the third place, new remedies had been discovered. In outlining a practical

policy, Sir Francis emphasised the importance not only of dealing with the disease when it occurred but of taking steps to prevent it. His object in coming to Glasgow was to induce them to form a centre of the National Council. That body, he explained, met in London, but it was not an English organisation, as all parts of the kingdom were represented upon it, and it was the hope of the Council that it would have more representatives from Scotland than at present. Already there were several centres in England and Ireland. It was suggested that in Scotland there should be four centres, with Glasgow, Edinburgh, Aberdeen, and Dundee as headquarters, each to be independent, but to be united in the National Council. In order to make the scheme a success it was essential that the hospitals should enter into it, as it was not thought desirable that the diagnosis and treatment of the diseases should be carried out in special hospitals. Among other reasons it was of the utmost importance that hospitals which had medical schools attached to them should not only diagnose and treat the disease, but be in a position to teach and to spread knowledge of the subject all over the world.

Dr. Ebenezer Duncan moved that, in accordance with the suggestion of the Local Government Board, a local committee be formed for the purpose of disseminating information as to the Government's scheme, and educating the public in sex hygiene generally, the committee to form a branch of the National Council, and to consist of representatives of the medical, lay, religious, and educational life of the city.

The Rev. Professor Cooper seconded, and the motion was adopted.

A vote of thanks to Sir Francis Champneys for his address was awarded on the motion of Dr. Mc'Connell, seconded by Dr. Chalmers, medical officer of health.

SCOTTISH BIRTH-RATE AND DEATH-RATE.—In a preliminary statement regarding the vital statistics of Scotland in 1916 published by authority of the Registrar-General, it is announced that during 1916 the births of 109,935 living children, the deaths of 70,642 persons, and 31,479 marriages were registered in Scotland. Compared with the returns for the previous year, births are 4,246 fewer, deaths 10,989 fewer, and marriages 4,793

fewer. Compared with the average numbers registered annually during the preceding five years, births are 10,719 fewer, deaths 3,824 fewer, and marriages 2,386 fewer; while compared with the average numbers registered annually during the preceding ten years, births are 14,486 fewer, deaths 4,358 fewer, and marriages 1,359 fewer. The births registered are fewer than in any year since 1863, and are 23,590 fewer than in 1903, when births registered attained a maximum. The deaths registered are fewer than in any year since 1868. The marriages registered are fewer than in any year since 1910.

The natural increase for the year, the excess of births over deaths, amounted to 39,293. It is 6,743 more than that for the previous year, but is 6,891 less than the mean of those for the preceding five years, and 10,528 less than the mean of those for the preceding ten years. With the exception of the year 1915, it is the smallest for any year since 1869. The birth-rate for the year was 22·8 per 1,000, which is 1·1 below that for the previous year, 2·6 less than the mean of the rates for the preceding five years, and 3·7 below the mean of those for the preceding ten years. It is the lowest annual Scottish birth-rate yet recorded, being 12·8 below that for the year 1876, when the Scottish birth-rate attained its maximum.

The marriage-rate for the year was 6·5 per 1,000. It is 1·1 below that for the previous year, 0·6 below the mean of the rates for the preceding five years and 0·5 below the mean of those for the preceding ten years. It is the lowest marriage-rate for any year since 1910. The death-rate for the year was 14·6 per 1,000. It is 2·5 below that for the previous year, 1·1 below the mean of the rates for the five preceding years, and 1·3 below the mean of those for the preceding ten years. It is the lowest death-rate ever recorded for Scotland, being 0·5 below that for 1911, which was the lowest previously recorded. By comparison with the figures for the previous year, it is found that the decline in the number of deaths has been principally due to a decline in the numbers of those of children of less than five years old, the decline being 3,767, or 26·1 per cent, for children of less than one year old, and 2,483, or 27·2 per cent, for children of from one to five years of age. The decline, however, is common to all age groups. In comparing the number of deaths from specific causes or from grouped causes

with those of the previous year, decreases are found in nearly all groups. Deaths from the principal epidemic diseases are found to be 3,231 fewer than in the previous year, those from whooping-cough accounting for 2,102 of this decrease, and those from measles for 618. Deaths from pneumonia are 2,150 fewer than in that year, and those from bronchitis are 2,018 fewer.

The infantile mortality rate for the year was 97 per 1,000 registered births. This rate is 29 below that for 1915, 16 below the mean of those rates for the preceding five years, and the same amount below the mean of those for the preceding ten years. It is 9 less than the previous lowest infantile mortality rate recorded in Scotland, that for 1912, and this is the first time that this rate has fallen below 100. The death-rate from all forms of tuberculous disease was 1·6 per 1,000, that from phthisis being 1·1. Both of these rates are the same as in 1915.

LIMITS OF THE PUERPERAL PERIOD.—We have been asked by Dr. F. J. Smith to give publicity to the following letter:—

138 HARLEY STREET, LONDON, W.

DEAR SIR—I wish to establish if possible as a fact whether there is or is not a case of “a woman, aged 48, or over, having a living or viable child,” recorded *on evidence other than the mere ipsa dixit* of the woman as to her age. Might I enlist the assistance of your readers to enable me to settle the point by reporting to me any cases within their knowledge?

I am of course aware that there are a good many reported on the evidence of the mere statement of the woman that she was 48 or older; but as the Registration of Birth Act is now over fifty years old it should be possible to get the date of parturition and the date of the mother's birth both officially recorded, and it is cases of this nature I am anxious to obtain for a forthcoming edition of Taylor's *Medical Jurisprudence*.—Yours truly,

FRED. J. SMITH.

CHILD WELFARE CONFERENCE.—Subjects of importance in relation to maternity and child life were debated at a conference held in Glasgow on 13th and 14th March under the auspices of the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy. The conference, which was

largely attended by delegates from different parts of the United Kingdom, was presided over on the opening day at first by the Lord Provost, and afterwards by Alderman Broadbent, Huddersfield. A paper on "The Midwives' (Scotland) Act: Its Objects and Methods," by Sir Halliday Croom, chairman of the Central Midwives' Board (Scotland), was read in his absence by Dr. J. Haig Ferguson, Edinburgh. The writer sketched the origin of the movement for legislation on the subject of the registration of midwives, detailed the conditions of qualification for registration and the penalties for infringement of the Act, and said that if the first year of the Central Midwives' Board for Scotland was to be taken as an augury the Board had every prospect of a very useful future.

Dr. W. Leslie Mackenzie, of the Scottish Local Government Board, spoke of the powers conferred by the Notification of Births (Extension) Act of 1915. The Act, he said, contained a clause of a very comprehensive kind, enacting that any local authority may make such arrangements as they think fit and as may be sanctioned by the Local Government Board for attending to the health of expectant mothers and nursing mothers and children under 5 years of age. No more revolutionary clause had ever been introduced in British legislation. They were now able to say that the whole period from before birth to the end of the school age had, in form at least, been medically provided for by statute.

Mr. W. E. Whyte, clerk of the Middle Ward of Lanarkshire, hoped that local authorities and the Local Government Board would not hesitate to make the fullest use of the large powers conferred by the Act. There was no compulsion to prepare and submit schemes, and the statutory provisions were enabling rather than imperative. It would have been preferable that every public health authority should have been required to submit a scheme for the approval of the Local Government Board.

Dr. Hope, Medical Officer of Health, Liverpool, urged the benefits to be obtained by linking up voluntary and official effort, and pointed out that to a large extent they must look to the midwives for help in carrying out the provisions of the Acts.

Dr. Maxwell Williamson, Medical Officer of Health, Edinburgh,

discussed the application of the Acts in towns where hospitals and voluntary associations are already provided. In most cities there were already institutions sufficient to cope with immediate necessities under a maternity and child welfare scheme. There remained the necessity of co-ordinating the institutions into one great organisation. Greater attention must be paid to all organisations which were preventive in their nature. Open-air playgrounds, kindergartens, day nurseries, child gardens, all ranked in the Edinburgh scheme, and there, as elsewhere, they must be enormously increased in number to meet coming necessities. He had suggested in the Edinburgh scheme that every church in the city should be responsible for at least one such institution, and a sufficient number was not otherwise likely to be established. He had also suggested the establishment of a convalescent home for young children of a capacity far beyond anything that had up to the present been dreamt of as necessary. It was safe to affirm that if weakly children in the early part of their lives were removed by the hundred from surroundings certain to aggravate their condition to the healthy environment of a country home, infectious disease and hospital expenditure would speedily reflect the effects of such treatment. He also advocated increased and improved district visitations, which he regarded as necessary to the success of any scheme.

Dr. Cook, Medical Officer of Health for Greenock, said that in the application of the powers conferred it was important to keep prominently before them the social conditions of the district. Like the prevention of tuberculosis, child welfare was largely a question of housing, and little could be done to combat that till after the war. The moral and physical standard of living in our larger towns was low, and both adequate wages and intelligence and wisdom to spend them properly were essential. Ignorance on the part of mothers had also to be contended with. The prevention and removal of these factors in causation were of paramount importance, and without such prevention and removal merely curative measures were beating the air. A large town should have within itself a complete scheme for carrying out the duties laid on the local authority under the Act. Such a scheme should provide for systematic domiciliary visitations; maternity and child welfare centres; hospitals for expectant and nursing mothers and children

requiring indoor treatment; special hospitals; convalescent homes and day nurseries; open spaces, &c. There should be provision for an adequate maternity service, and facilities for educating mothers and young women in the responsibilities of motherhood. Records of the work done should be kept in a central office, and at the age of 5 they should have a fairly complete medical history of the child to hand over to the school board authorities.

Dr. Wilson, Medical Officer of Health, Lanarkshire, said the objects of the new developments should be kept clearly in view. It was doubtful if curative and beneficial agencies alone would have much effect in reducing infant mortality. If the causes of infant deaths were carefully considered along with the detailed reports of the nurse health visitors it would be realised how difficult it was to reduce a high infant death-rate under existing social conditions. Populations with high birth-rates in mining and manufacturing districts were often badly housed. It was not merely the size and construction of the house that was at fault, but its situation and surroundings. Why was it that in agricultural communities they had low infant death-rates? It was not altogether because they had better houses in respect of size and construction. The whole environment was different from that of a mining village or town.

Mr. D. W. Kemp, Convention of Royal Burghs, referred to the case of small towns where no institutional provision exists. He suggested that where there are a number of little burghs close together they should form themselves into groups, and at least have a highly qualified nurse, under the medical officer of the county, to look after the interests of young children.

In reply to a question, Dr. Maxwell Williamson stated that the death-rate was very largely in almost exact proportion to the number of licences that existed in particular districts.

Professor Murdoch Cameron spoke of the work of the Glasgow Maternity Hospital.

Professor Munro Kerr, Glasgow, read a paper on the causes of still-birth, which will appear in a subsequent issue of the *Journal*.

Mr. C. K. Aitken, chairman, and Mr. R. F. Barclay, secretary, the Royal Hospital for Sick Children, Glasgow, referred to the function of such hospitals in the scheme of welfare; and Mrs.

Johnston, M.D., Edinburgh, dealt with special wards for malnutrition and feeding cases only.

Dr. Leonard Findlay, Royal Hospital for Sick Children, Glasgow, read a paper on "The causes of infant deaths." He said that even with pre-natal and ante-natal care there would still be infantile mortality. What was wanted at the present moment more than anything else was research along proper lines, to be followed by legislation.

Dr. A. K. Chalmers, Medical Officer of Health for Glasgow, dealing with points of criticism of the child welfare movement made by Dr. Findlay, said that as a people we had embarked on a new experiment. It was only little more than a hundred years since we began to make ourselves city dwellers. People were becoming urbanised, and child mortality was one of the results. Mankind, after centuries of one life, could not suddenly adopt another without suffering for it. We were groping our way out at the moment. The milk dépôt system, the visitation, the infant clinic, the crèche or kindergarten, could not separately accomplish the work of child welfare. The whole environment of the household required to be altered, and that brought them back to the condition of the houses.

Some fifty papers were read in the course of the second day's proceedings, which were devoted to the consideration of different aspects of the subject under the headings of maternity and child welfare centres, and their place as schools for mothers; the place of the crèche, kindergarten, and country home in the movement; the problem of home visitation; and the illegitimate child and its care.

Dr. A. K. Chalmers, who presided over the opening sitting, held under the auspices of the Scottish Federation of Mother and Child Welfare Centres, explained that the Federation, which was established a year ago, now included 13 associations, and 17 medical officers of health had become honorary members.

Dr. Kerr, Newcastle, in giving the experience of that city with seven welfare centres, said that there must be close co-operation between such centres and the health department.

Judge Lindsay, Leith, was strongly of opinion that the medical supervision of school children should be under the direct control of the medical officer of health, and not of the School Board.

Dr. Leonard Findlay, Glasgow, dealt with the grievous effects upon child life of bovine tuberculosis, which he said was contracted in practically every instance by drinking infected milk. This was one line in which research was far ahead of legislation. The disease, besides causing heavy infantile mortality, maimed many children for the rest of their lives, and it was preventable. He urged that the infant clinic must be kept entirely apart from a children's hospital.

Miss Halford, secretary of the National Association for the Prevention of Infantile Mortality, London, explained that in England they differentiated clearly between clinics and infant consultations. In any extension of the work that might be contemplated in Scotland they should limit themselves as far as possible to the prevention of disease and to the educational aspect of the subject. Some of the public-houses might be converted into infant welfare centres.

Sir Archibald Buchan Hepburn, chairman of the Association of County Councils for Scotland, urged that as the preservation of child life was undoubtedly a national work the expenditure of it should not be thrust on the local rates. He hoped they would make it part and parcel of their demand that a very large contribution should be made for the purpose from Imperial funds to the local authorities.

In connection with the discussion of the place of the crèche and kindergarten in the movement, Mr. Francis Henderson, chairman of the Glasgow Day Nurseries Association, said that they had now six nurseries in different parts of the city, and the admissions of children last year exceeded 20,000. If the local authorities throughout Scotland, he added, interpreted their new duties in the broad-minded spirit foreshadowed by the medical officers of health, he was satisfied that the movement which was being inaugurated would be full of immense benefit to the people of the country, and would lead to the saving of many lives.

The Rev. Buchanan Blake said that, splendid though the work of the voluntary association in Glasgow was, it was wholly inadequate to meet the needs of the city. It should be a charge upon the municipality to see that there were not 6 but 60 or 100 day nurseries in Glasgow.

Dr. Robertson, medical officer, Leith, urged that all crèches

should be made municipal concerns. Voluntary associations would not secure the munificent grants which the local authority would obtain.

Bailie S. MacDonald, Clydebank, at the opening of the afternoon session, over which ex-Provost M'Dougall, Pollokshaws, presided, called attention to the danger of day nurseries which might be established under war conditions becoming permanent, and holding out an inducement to those who were not over-maternal towards their children.

Dr. Scurfield, Sheffield, emphasised this point, stating that the day nursery was at the best a disagreeable necessity and a confession of failure on the part of the community, which ought to see that the mother looked after her babies at home. He hoped that nurseries which were opened in munition centres would be closed after the war.

Councillor Clarice M'Nab, Leith, expressed regret that the grants by the Local Government Board did not allow for expenditure on milk and other foods. The chief cause of infantile mortality was poverty. People did not live in slums by choice, and the environment of the slums was mainly responsible for the death and disablement of infants.

Mrs. Leslie Mackenzie, Edinburgh, regretted to hear so many people speak of the neglect of the parent. Had it not been for the Scottish and English working-class mothers where would our armies and our munition workers have been? She hoped that under new legislation these mothers would be helped in the greatest possible way: they could not be pauperised, because it was their own rates and taxes that would be used.

The need for country and convalescent homes was the subject of brief addresses by Miss Rutherford, Queen Margaret Settlement, Glasgow; Mrs. Leslie Mackenzie, and Mr. R. F. Barclay, secretary of the Royal Hospital for Sick Children, Glasgow. Importance was attached to the value of those homes in cases where children had made bad recoveries from early ailments.

Dr. Chalmers discussed the relation of the general practitioner to welfare centres and the problem of home visitation. Dr. Michael Dewar, Edinburgh, said it was unfair to exploit the medical profession in the establishment of welfare schemes, as was proposed in some quarters.

Dr. Drever, secretary of the Glasgow Burgh Local Medical

Committee, argued that as the State had long ago admitted its liability for the mental training of the citizens it should accept the natural corollary and provide medical attendance and treatment for everyone.

Dr. Scurfield said we might deplore the declining birth-rate, but it was much more important that adequate maintenance should be given to the children who had come. He suggested that the State should provide subsidies in cases where the family consisted of above three or four children under wage-earning age, the subsidies to be administered by the Health Department.

Mr. J. R. Motion, Inspector and Clerk to Glasgow Parish Council, gave an account of that body's experience in dealing with unmarried mothers and the care exercised in the supervision of their infants. The influence they sought to exert was of the best kind, and their experience encouraged them to persevere with even greater zeal in the future.

The conference concluded, after awarding thanks to the Corporation of Glasgow.

ROYAL MATERNITY AND WOMEN'S HOSPITAL: ANNUAL REPORT.—The annual meeting of the Glasgow Royal Maternity and Women's Hospital took place on 5th February in the Hospital, Rottenrow, the Lord Provost, Sir Thomas Dunlop, presiding. Among those present were Sir Alfred Ewing, Principal of Edinburgh University; Principal Sir Donald MacAlister, Dr. W. L. Reid, and Mr. John A. Roxburgh. The annual report stated that it had been now brought home to the people and the Government that the care of mothers and infants was a matter of national importance and an urgent public duty. The total number of cases in 1916 was 3,572. The number of cases treated in the wards was 1,766, and the number treated at their own homes was 1,806. Comparison with the figures for 1915 showed that there had been an increase of 116 in indoor cases and a decrease of 189 in outdoor cases, making a net decrease of 73. Of the 1,766 cases in the Hospital, 1,472 came from districts in the city, 167 from districts adjoining the city, and 127 from other places in Scotland, from Aberdeen to Ayr, and from Argyll to Mid-Lothian. The average daily number of beds occupied in the obstetrical wards

for the year was 57, against 56 in the previous year, and the average residence of each patient was 11·111 against 11·637 days of the previous year. In the outdoor obstetrical department 19,486 visits (an average of 1,624 per month) were paid by the district nurses and students in attendance on patients in their homes—14,269 in the districts connected with the Hospital, and 5,217 in the districts connected with the West-End Branch. In the outdoor gynæcological department the number of patients seeking advice had increased. The new cases had gone up from 752 to 971, and advice was given to 3,756, as compared with 2,770 of the previous year. On the year's working there was a deficiency of £3,052, 14s. 7d., which, by the help of legacies, had been reduced to a net deficit of £2,380, 3s. 10d. The general subscriptions exceeded the subscriptions for 1915 by the sum of £212, 6s. 2d. The amount received from the maternity benefit during 1916 amounted to £869, 18s., a decrease of a few pounds on the year 1915. The directors referred to the loss sustained by the death of Dr. Gourlay. An outstanding example of the value of character, Dr. Gourlay held in the affairs of the city a position of trust and confidence surpassed by no one. His high sense of honour, his devotion to everything that made for good, and his generous support of every worthy cause would long be remembered. Kindly and sympathetic in manner, genial to all, and always genuine, he held the respect and affection of the community. His loss to the city had been acknowledged in many places. For the Hospital he laboured long and lovingly. For thirty-eight years he was a director, and for many years he was deputy chairman of the board. To his labours, his zeal, and enthusiasm much of the credit was due for the new building in which the Hospital now carried on its work.

Sir Alfred Ewing, in moving approval of the reports, said it was gratifying that, notwithstanding the many claims which the war had imposed upon the community, the institution had not been starved financially. On the contrary, the income from subscriptions had increased very considerably, and an exceedingly satisfactory feature was the increase in the subscriptions by workmen. As against this, the expenses had enormously increased, especially in regard to provisions and fuel. The reports of the Hospital over a series of years gave the impression

of progressive development, of life and growth, and of adaption to new ideas, and showed that the institution was leading the way in what were now important directions of social reform. It might be truly said that the war had made us extraordinarily careless of life. We had learned to be strangely callous about death—the death even of those we loved. But, although that was one of the consequences of the war, it was equally true that it had taught us a new carefulness about child life. The war had taught us that just as we had to recreate our wasted wealth so we had to strive to restore our wasted manhood. It was, he believed, an historic fact that the years after war always showed an increased birth-rate. When one thought of the conditions under which the rearing of children was carried on in the homes of the poor, and even in the homes of the working classes—the conditions of crowding, of meagre and often unsuitable diet, of dirt, and of ignorance—one wondered that the mortality was not a great deal higher. One realised what a field there was for the benevolent work of that Hospital, and marvelled, not that so many young children died, but that so many survived. With increased civilisation there came as a rule a diminished birth-rate, and the race was only saved from extinction by conserving more and more carefully the children who were born. If, for instance, the British nation, with a modest birth-rate of 24 per 1,000, had as high a death-rate as that which obtained in Russia—nearly 29 per 1,000—it was clear we would soon cease to exist. As a nation, we were, however, bestirring ourselves as we had never bestirred ourselves before to save infant life, and recent legislation had been directed to that end. He did not doubt that if the citizens of Glasgow knew more about the work of the Maternity Hospital, of its aims and achievements, and how it was now placing itself in the van of this great movement, they would be even more proud of it than they were, and would support it even more liberally than they did.

Principal Sir Donald MacAlister, who seconded, referred to the fact that the burden of debt which some years ago rested upon the Hospital had been lightened very considerably by the liberality of friends of the institution. Since the beginning of the war, and before it, the national importance of such an institution and the potentialities of the civic service it could

render had grown in even greater measure than its present activities. The Legislature had come to realise, slowly but at last, the nature of the problems which the nation had to solve in relation to motherhood and infancy, and hospitals such as that had been placed in a new and very exacting situation as a factor in the solution of those problems.

The reports were adopted.

It was intimated by Professor Bryce that it had been decided to increase the board of directors by three, and that these new directorships should be held by ladies.

GLASGOW WOMEN'S PRIVATE HOSPITAL.—The annual meeting of the Glasgow Women's Private Hospital was held in the institution on 26th January, Dr. Henry Dyer in the chair. Miss S. W. Murray, in submitting the annual report, said that despite the difficulties which had been set up by the war the work of the hospital had gone steadily on. During the year the beds had all been fully occupied, the total number of patients treated being 133. The ordinary income for the year had been £932, 15s. 1d. and the expenditure had been £1,067, 12s. 1d. Notwithstanding the very large increase in the cost of running the hospital, the committee were gratified that the deficiency between the income and the expenditure was only £134, 17s., as against £214, 7s. 7d. in 1915. Miss Murray also intimated that she had recently received a grant of £1,500 from the estate of the late Miss Schaw and a three years' grant from the Muirhead trustees.

Miss Muir moved the adoption of the report. She said that a more noble example of self-sacrifice could hardly be conceived than that of the hospital units which had gone from Glasgow to labour amongst the French and the Serbians. The ladies were forced to penetrate into countries which, to the majority, were absolutely unknown, and where ambulance work was almost in a primitive stage. Yet they struggled on, and to-day there was a record of their heroism which ranked among the bravest actions of the war.

Miss Ritson seconded, and the report was approved.

GLASGOW ROYAL ASYLUM: ANNUAL REPORT.—The annual

meeting of the Glasgow Royal Asylum was held on 15th February, the Dean of Guild, Mr. Hugh Reid, being in the chair. Dr. L. R. Oswald, medical superintendent, presented the annual report, in which he stated that there were 432 patients in the asylum at the beginning of the year and 437 at its close. The total number under treatment was 548, and the average number resident was 436. The admissions into all Scottish asylums in 1915 showed that insanity was nearly equally divided among the sexes, the increased frequency of general paralysis and alcoholic insanity in men being balanced by the greater number of women who suffered from melancholia or broke down at the climacteric period. It was interesting to note the effect of the war in this connection, and whether the resulting widening of the horizon of woman's work and the removal of some repressing influences would increase or diminish her mental stability. He believed the former, for the greater variety of occupations open to her the more likely was she to find that for which she was best suited, and undoubtedly some of the female admissions during the last year owed their illness in part to being engaged in work for which they were temperamentally quite unsuited. He referred especially to 11 who were students or teachers. Delusional patients were frequently dangerous, and their seclusion when the disease was confirmed was necessary in the interests of society. Among many they had at present was one who, prior to admission, threatened the lives of His Majesty's Ministers because of their refusal to adopt an invention of his which would, he believed, end the war in a week. There were unfortunately no grounds for his belief. Such patients were frequently clever and well educated, but their mental development was unequal. They were utterly regardless of the rights of others, and among them were at least some of the eccentrics and "antis" of present-day notoriety. The onset of the war arrested for a time the course of the disease in some of these cases, because of its compelling effect on the mind. Time, however, familiarised us even with a world war, its first effects passed off, and old ideas, normal or abnormal, reasserted themselves; and in the last six months he had seen a number of patients whose illness, begun before its onset, the war had checked, but who had of late shown a return and aggravation of their symptoms. He regretted to have to

report an increased number of cases—12 men and 5 women—in which the definitely ascertained cause was alcoholic excess. This was the largest number reported for 10 years, and the highest percentage on the admission-rate for that period. The admissions were drawn from such a large area, and the figures were so small, that he did not feel justified in drawing conclusions. He was informed, however, that the admissions into one of the district asylums of Glasgow in 1916 showed that alcohol was the cause of the illness in 5 per cent more than in the previous year. The war was not the cause of the illness in any of the admissions, nor had it, in his opinion, led to any increase of insanity among the civilian population. Among those on active service there were many cases of nervous and mental break-down directly due to its effects, but of these a large proportion would recover, and every effort was being made to lessen this terrible aftermath of war. The influence of the war on the mental stamina of the nation in the near and remote future he had no means of estimating, but it was bound to be far-reaching. He would not have it thought that, in his opinion, there was an actual increase of insanity. He believed the contrary, and the report of the General Board of Control for 1915 showed an actual decrease of 130 patients for that year, the first time in their annual reports that such a decrease had fallen to be recorded. Poverty—insanity was most common among the poor—insufficient nourishment, and anxiety were powerful factors in its production, and the high standard of living at present enjoyed by the poorer classes, their freedom from the fear of want, and their constant and well-remunerated employment had reduced the number of cases from this cause. The Medical Officer of Health for the city had reported that the death-rate for 1916 was the lowest noted, and he believed that when statistics were available it was not improbable that a low incidence of insanity would also fall to be recorded. Regarding the therapeutic value of work on farm and garden as a healer of minds and a restorer of shattered nerves there could be no possible doubt, and he could see in the awakening practical interest being taken in the cultivation of the land by a large number of men and women a double advantage—an increase in the national food supply and a betterment of the mental and nervous health of those who undertake it. Games that interest

and give a moderate amount of exercise were the best for the purpose, and golf was a great resource to many of both sexes. Concerts and dances, associated amusements of all kinds, were held in winter, and when the acuteness of a mental illness had passed off it was then that these were useful in assisting to revive the social instincts, to re-awaken the dormant natural affections and desires.

The Chairman warmly congratulated Dr. Oswald on his statement, and moving the adoption of the directors' report, he expressed gratification that the extra work necessitated by the war had not resulted in an increase of insanity. Indeed, work when not accompanied by worry was beneficial. He approved of the decision of the directors to admit soldiers and sailors who had been mentally affected by the war, which the directors regarded not only as a patriotic duty but a legitimate extension of the objects for which the institution was founded. He congratulated the directors on the economy with which the institution was conducted, for while the cost of maintenance had increased by 30 per cent, no increase had been made in the rates for patients.

Colonel Roxburgh seconded, and the report was approved.

GLASGOW EYE INFIRMARY.—The annual report of the Glasgow Eye Infirmary was submitted at the annual meeting of subscribers held in the Merchants' House, Glasgow, on 31st January, Sir Hector C. Cameron in the chair. It stated that for the past year the number of patients admitted at Berkeley Street for indoor treatment was 1,464. The average duration of patients' residence was 16·8 days, and the average daily number of patients was 69·1. In addition to the daily average of patients treated in the wards, there was a resident staff of 23, making a daily average of 92·1 resident in the Infirmary. The surgical staff numbered 11, and the total number engaged in the work of the Infirmary was 41. The number of outdoor patients treated was 27,741, compared with 26,698 in 1915. The annual subscriptions and donations had increased by £124, and the contributions from public works by £332.

In moving the adoption of the report, Sir Hector Cameron, after commenting on the figures it supplied, said that there

had been some difficulty in keeping Charlotte Street going as it was conducted before the war, but that difficulty had been largely got over by a reciprocal working agreement with the Ophthalmic Branch of the Royal Infirmary. That in itself was a very satisfactory occurrence. It was the first mutual arrangement between the two institutions which did practically the same work, but which had been looked upon in the past as distant rivals rather than friends. Reviewing the record of the year generally, Sir Hector remarked that they could congratulate themselves that, in spite of difficulties, the volume of work had been accomplished with the usual efficiency.

The report was unanimously adopted. Office-bearers were elected, Sir Hector Cameron being re-elected chairman of directors, and thanks were conveyed to the staff and to the contributors.

GLASGOW CENTRAL DISPENSARY.—The report of the directors of the Glasgow Central Dispensary, submitted on 26th January to the annual meeting of subscribers at the Dispensary, 30 Richmond Street, showed that 5,634 had been treated during the year. The work of the Dispensary, the report stated, had been much curtailed owing to the scarcity of doctors, more than half of the doctors on the staff having gone on active service. Acknowledgment was made of the splendid manner in which those who remained discharged the very heavy extra work thrown on them. The offer was made by the directors to place at the disposal of the War Office the second flat of the premises at a nominal rent just sufficient to pay for light and heating. It was accepted, and the flat is now being used as the Army Dental Centre, Glasgow area, for the treatment of soldiers. During the nine weeks in which the accommodation has been utilised by the military staff they have had 3,900 soldiers under their care. The financial operations of the Dispensary during the year were satisfactory, the total ordinary income amounting to £583, and the expenditure to £415. The report was adopted, on the motion of Mr. Garroway, who presided over the meeting, seconded by Dr. Archibald Sloan. Dr. Perry moved and Mr. McLellan seconded a vote of thanks to the subscribers, and Mr. J. M. Easton moved and Mr. Smith seconded a vote of thanks to

the staff. The re-election of directors was agreed to on the motion of Dr. McLean, seconded by Mr. George C. Chapman, the hon. secretary.

GLASGOW CONVALESCENT HOME.—The fifty-second annual meeting of the subscribers to the Glasgow Convalescent Home, Lenzie, was held on 16th January in the Religious Institution Rooms, Glasgow. Mr. J. A. Roxburgh presided. Mr. R. G. Ross, secretary, submitted the directors' report, which stated that the number of patients admitted to the Home in 1916 was 1,452, as against 1,487. Of the 1,452 patients admitted 429 came from the Royal Infirmary, as against 346; 217 from the Western Infirmary, as against 229; and 806 from the public on subscribers' lines, as against 912. The average stay of the patients in the Home had been 14·5 days, as against 14·8 days. The total expenditure for the year in the annual revenue account was £3,482, 7s., as against £3,831, 4s. 5d. The amount expended for provisions had been £1,701, 0s. 5d., as against 1,565, 8s. 7d. This showed the cost of the board of the patients (inclusive of the maintenance of the staff) during their stay at the Home to be 11s. 3 $\frac{3}{4}$ d. per head per week, as against 9s. 11d. The subscriptions for the year were as follows:—From ordinary subscribers, £1,082, 11s. 3d., as against £1,043, 4s.; from employees in public works, £709, 12s. 6d., as against £664, 3s. 2d.; and from churches, schools, &c., £118, 1s. 7d., as against £108, 6s. 1d. The total subscriptions for 1916 amounted to £1,910, 5s. 4d., as against £1,815, 13s. 3d., showing an increase in the annual subscriptions for the year of £94, 12s. 1d. The managers regretted that in consequence of the continued increase in the cost of provisions and coal, the total expenditure for the year exceeded by £657, 10s. 10d. the annual revenue, leaving a deficit for the year of that amount in the annual revenue account, which had to be made up out of the capital account. Mr. Hugh Blair, in submitting the treasurer's statement, said that they were about to receive a grant from the Hamilton Trust of £2,000. The chairman, in moving the adoption of the reports, said the institution had done a noble work for Glasgow and the West of Scotland. He congratulated the directors on the way in which the institution had been

managed, expressed pleasure that workmen took such a considerable interest in it, and commended it to the continued and increased support of the community. Major James Hope seconded, and the reports were approved.

PROGRESS OF CREMATION.—The annual meeting of the Scottish Burial Reform and Cremation Society was held on 2nd February in its office, 142 St. Vincent Street, Glasgow. The Chairman, Dr. Ebenezer Duncan, in moving approval of the directors' report, stated that there had been steady progress in the adoption of cremation as a method of disposing of the dead, and referred to the fact that the financial statement showed a surplus, which had enabled them to clear off their debit balance. He pointed out that there was a cremation society in Edinburgh, and that when a crematorium was erected there a considerable reduction might be expected in the number of cremations from outside the Glasgow area. It was necessary therefore that they should build up a substantial reserve fund in anticipation of a falling off from that cause. He emphasised the need for an active propaganda in connection with burial reform, and stated that the society had approached the authorities in Glasgow with a view to the disposal of unclaimed dead by cremation. They were anxious that cremation should no longer be a method for the rich and educated, but that it should be made available for the masses of the poor, who at present had no guarantee that their remains would be allowed to rest where they were deposited, because the common ground in burial places was used over and over again and the remains treated as if they were refuse. He thought there was no doubt whatever that as the working classes became more educated on the subject they would adopt cremation in increasing numbers.

Mr. T. Ripley Ker, Milngavie, seconded, and the report was approved.

Professor John Glaister, Dr. Johnstone Macfie, Messrs. John Drummond and Paul Rottenburg were reappointed directors on the motion of Mr. James Chalmers, seconded by Miss Margaret S. Ker. Mr. Chalmers said that if the society had been in a wealthier condition they might have gone to the battlefields for the purpose of cremating our dead soldiers, bringing the remains

home to their sorrowing relatives, and erecting at the crematorium chapel a hall of heroes.

The Chairman said that that matter had been before the directors, but the difficulties at present were insuperable.

ROYAL ALEXANDRA INFIRMARY, PAISLEY: ANNUAL MEETING.—The annual meeting of directors of the Royal Alexandra Infirmary, Paisley, was held in the institution on 5th March, Mr. J. Armour Brown, president, in the chair. Mr. John Abercrombie, the hon. secretary, submitted the annual report. During the year there were 1,772 patients, 580 being medical and 1,192 surgical, treated in the institution, an increase of 143 as compared with the previous year. The total income was £11,254, 3s. 11½d., an increase of £1,946, 0s. 3½d., and the total expenditure was £11,729, 1s. 0½d., an increase of £2,077, 14s. 6½d. The net result of the year's intromissions was a deficit of £474, 17s. 1d. Had the income, however, included a sum of £478, 12s. due by the War Office on account of soldiers treated, and which had not been received when the accounts were closed, the year's intromissions would have shown a surplus of £3, 14s. 11d. Excluding the amount due by the War Office, the total deficit was now £339, 7s. 11d. Taking everything into consideration, the directors were of opinion that the financial results appeared to be eminently satisfactory. In the course of the year 318 military patients were treated in the house, bringing the total number of military patients treated up to 617. The directors were pleased to intimate that several former members of their staff had gained military distinctions. Dr. R. M. Hill had gained the D.S.O., Dr. Matthew A. Swan the Military Cross, Assistant Matron Yule and Nurse Rollo had been mentioned in despatches, and Miss Alexander, their late matron and lady superintendent, had received the second class decoration of the Royal Red Cross. The endowment fund of the institution as at December last amounted to £90,695, 10s. 10d. The only addition to the fund during the year was £1,250 from Miss Evelyn Dudley Coats to endow a bed in memory of her late parents, Mr. and Mrs. Archibald Coats of Woodside, Paisley.

GREENOCK INFIRMARY.—The 108th annual meeting of

Greenock Infirmary directors was held on 15th February, Mr. J. A. Tannahill in the chair. The annual report stated that the total admissions for 1916 were 1,475, an increase of 103 over the previous year, and there were 566 cases of accident. Ordinary revenue amounted to £5,002, 0s. 2d., an increase of £40, 8s. 11d., and the ordinary expenditure to £7,770, 9s. 2d., an increase of £1,051, 3s. 7d. The deficit was met by legacies and special donations, and by drawing on the free invested funds. Extraordinary revenue amounted to £1,481, 11s. 2d., as compared with £5,722, 13s. 2d., and extraordinary expenditure to £86, 4s. 3d., against £230, 19s. 5d. A balance of £132, 0s. 10d. was carried forward in the ordinary accounts.

The Chairman, in moving adoption of the reports, stated that the military authorities had asked for 30 or 40 beds as a supplement to Smithston Military Hospital, but this could not be done without structural alterations, and it was consequently thought better to make extensions at Smithston. The infirmary was unfortunately lacking in accommodation even for ordinary patients. It was expected that in the future the directors would be able to reduce deficits to a minimum, chiefly through the increase of workmen's contributions which had been agreed to. The directors had agreed heartily to co-operate with the Corporation maternity scheme and hospital, and to help so far as the accommodation at their disposal would permit.

Mr. Colin MacCulloch (late town clerk) seconded the motion, which was passed.

VICTORIA INFIRMARY, HELENSBURGH: ANNUAL MEETING.—The annual meeting of the subscribers to the Victoria Infirmary, Helensburgh, was held on 5th March, in the Victoria Hall Buildings, Mr. David Boyd, chairman of directors, presiding.

The annual report showed that there were 11 patients in the institution on 1st January, 1916. During that year 121 were admitted, making a total of 132 cases treated in the course of the year. Of the total number of patients 88 were dismissed well, 15 improved, 12 died, 1 was sent to the Western Infirmary, Glasgow, and 1 to the Samaritan Hospital there, while 3 refused treatment, and 3 left without improvement. During the year 22 outdoor patients received attention, 70 visits being paid.

The report pointed out that in spite of all the efforts of the directors the ordinary revenue had been insufficient to meet the ordinary expenditure, and that the balance at the debit of the income and expenditure account had risen to £347, 8s. 5d., even after crediting the £62, 13s. of special donations. The directors had been compelled in the course of the year to raise their rates for private patients to £2, 12s. 6d. per week, and for boys from the C.T.S. Empress to 7s. 6d. per week.

The Chairman, in moving the adoption of the report, said the total increased expenditure had been £208. It was encouraging that the ordinary subscriptions had been increased by about £56, and they had received in special donations £62, 13s.

Mr. R. J. Cunliffe, in seconding, referred to the bequest made to the Infirmary by the Schaw Trust, and said it was unfortunate that the idea had got abroad that the Infirmary was now independent of subscriptions. The £100 or so of interest which they would get from this grant would all be required to meet increased cost of living. They had as much need as ever for subscriptions.

LITERARY INTELLIGENCE.—The fourth edition of Mr. Comyns Berkeley's *Handbook of Midwifery* is announced for early publication by Messrs. Cassell & Co., Limited. It has been considerably expanded to meet the additional requirements of the Central Midwives Board, and to render it suitable for obstetric dressers.

REVIEWS.

Laboratory Manual in General Microbiology. Prepared by the Laboratory of Bacteriology, Hygiene, and Pathology, Michigan Agricultural College. London: Chapman & Hall, Limited. 1916. (10s. 6d. net.)

ALTHOUGH everyone nowadays is familiar with the relationship of micro-organisms to disease, it is less commonly realised that there are other phases of microbic activity. Pathogenicity is so striking a property that it overshadows all others. Yet the disease-inducing organisms are in reality but a small minority of known forms, and as each sort must play some rôle in nature and be related somehow to the others, the importance of investigating many phases of micro-organismal activity becomes manifest. Without such study true conceptions of species among these lowly forms are impossible.

The use of such a volume as the present would do much to clarify thought on the biology of the "infinitely little." It is conceived on broad general lines and covers a wide field in a way which makes it a valuable introduction to the practical study of micro-organisms—bacteria, fungi, filtrable viruses and serum reactions all being dealt with. The best authorities have been laid under contribution and some are quoted *ipsissimis verbis*, but the book has an individuality of its own, and reflects much credit on the staff of the Michigan Agricultural College. A most valuable feature is the compendious bibliography: throughout detailed references to standard authorities in special fields point the way to more advanced study.

A closer scrutiny in proof of proper names and equations would have been advantageous, *e.g.*, Ziehl-Neelsen is mis-spelt throughout, and an expression such as "anti-body = hæmolytic amboceptor and complement," just makes diagram B., Fig. 73, confusing, for it is against current usage to include "complement" in the term "anti-body." Again, it might be noted that

in preparing culture media boiling over a free flame is a device of questionable expediency; while cover-glass thickness and sub-stage condenser focussing both merit some reference in directions for using the microscope.

St. Thomas's Hospital Reports. New Series. Edited by Dr. J. A. PERKINS and Mr. C. A. BALLANCE. Vol. XLII. London: J. & A. Churchill. 1915.

THE forty-second volume of the new series of *St. Thomas's Hospital Reports* contains the usual statistical information, with brief abstracts of the cases of greatest interest in the various departments. A mass of interesting material is to be found in its pages, presented in such a form as must make it of great value to the hospital statistician.

Saint Bartholomew's Hospital Reports. Edited by F. W. ANDREWS, W. M'ADAM ECCLES, G. E. GASK, W. D. HARMER, H. THURSFIELD and H. WILLIAMSON. Vol. LI. London: Smith, Elder & Co. 1916.

THE present is the only volume of these *Reports* published for the year 1915, the scheme of publishing in three parts, the first two literary, the third statistical, which was initiated before the war, having been abandoned on account of the absence of contributors and the increased cost of paper and production. Consequently the volume contains both literary and statistical matter, and the literary contributions are less numerous than usual. It opens with an appreciative notice of the late Mr. Howard Marsh, so well known for his work on diseases of the joints and on orthopædic surgery, and this is followed by some vivid personal memories of him by Sir A. A. Bowlby. Dr. A. E. Stansfeld contributes a useful article on the present position of vaccine therapy, and Mr. B. W. Howell, Médecin-chef of the British Red Cross Unit at Vrnjatchka Banja, an interesting note upon the Serbian typhus epidemic of 1915. The single

surgical paper, by Messrs. D. Cameron and S. Limbrey Higgs, deals with six cases of vesical hernia simulating inguinal and femoral hernia, describes the varieties of the condition, calls attention to its importance, and discusses the diagnosis. The rest of the volume is occupied by statistical matter.

The Practitioner's Medical Dictionary. BY GEORGE M. GOULD, M.D. Third Edition. Revised and Enlarged by R. J. E. SCOTT, M.D. London: H. K. Lewis & Co., Limited. 1916. (17s. net.)

THIS new edition of Gould's well known *Dictionary* contains about 20,000 new words, and its whole vocabulary consists of over 70,000 words. The definitions are full and accurate, and convey all the information about each term that is necessary for its complete comprehension, yet the book, though it contains nearly 1,000 pages, is not unwieldy. This has been accomplished by using a paper which, though thin, is not transparent, and a type which, though small, is a little larger than that of the unabridged Webster and is clearly legible for ordinary eyesight, and by the elimination of words which time has made obsolete. We have failed to find any omissions among the newer words which we have verified, with the exception of terms connected with the war. Thus there are no definitions of shell-shock, trench fever, or trench foot; but these are minor blemishes in a work the completeness and compactness of which must make it an acceptable desk-companion to the up-to-date practitioner.

The Story of a Red Cross Unit in Serbia. By JAMES BERRY, B.S., F.R.C.S., F. MAY DICKINSON BERRY, M.D., B.S., W. LYON BLEASE, LL.M., and other Members of the Unit. London: J. & A. Churchill. 1916. (6s. net.)

ALTHOUGH the story of the work of the "Anglo-Serbian Hospital" or "Royal Free Hospital" Unit in Serbia has already been partly told by the present authors in various articles in

monthly and weekly periodicals and in the daily press, this volume forms the first connected account of its labours throughout the year of their connection with it. From the point of view both of the professional and of the lay reader the authors have produced a book of high interest. For the former, there are the accounts of the preparation of the hospitals, the typhus epidemic, the sanitary measures adopted, and the medical organisation of the Serbian army; for the latter, the historical introduction, the "Impressions of the Scout" by Mr. Norris, Mrs. Berry's account of the Austrian prisoners, Mrs. Blease's picture of the characteristics of the Serbs, Miss Boyle's of the out-patients, with their unexpected resemblance to the Irish, the story of the Austrian invasion, and of the captivity and final return to England of the Unit. The volume is handsomely got up and easy to hold, while its numerous and excellent illustrations add greatly to the vividness of the reader's impressions of the people and the country. Its perusal, while it leaves us with a feeling of regret not untinged with shame that a nation so simple and so courageous should have received no more effective aid, awakens at the same time our heartiest admiration for the wholly efficient work of the Red Cross.

The Primary Lung Focus of Tuberculosis in Children. By Dr. ANTHON GHON. Authorised Translation by D. BARTY KING, M.D., M.R.C.P. London: J. & A. Churchill. 1916. (10s. 6d. net.)

IN this volume are embodied the results of Dr. Anthon Ghon's observations in the detection of the primary lung focus of tuberculosis in children, in a series of 184 autopsies performed by him in cases of tuberculosis at St. Anne's Children's Hospital, Vienna. It opens with a preface reviewing the work which had been previously done upon the subject, and showing that the investigations of Küss have afforded the most ample confirmation of Parrot's law of "similar adenopathies," namely, that there is no change in the tracheo-bronchial lymphatic glands without analogous changes in the lung. Küss, whose work appeared in Paris in 1898, described with extreme care

the special form of tuberculosis in childhood which is due to inhalation of the bacillus, showing that it always produces a small and usually subpleural but sometimes intra-parenchymatous tubercle which may either ulcerate or remain for years unaffected by other than retrogressive changes, and which is accompanied or followed by infection of the lymphatic glands adjoining the lung focus. These in time may set up retrograde infection of the neighbouring lymphatic from the infected mediastinal glands, and in this way the œsophageal and pancreatic lymphatic glands may come to be involved. The point of principal importance is the smallness of the primary focus as compared with the glandular changes, whence it has happened that it is often overlooked, or that if it is found it is considered to be secondary to the glandular condition. Its characteristics would lead one to conclude that the infection of inhalatory tuberculosis in children takes place through only a limited number of bacilli, and sharply distinguish it alike from ordinary apical tuberculosis, from tuberculosis through contiguity, from aspiration tuberculosis, and from lymphogenous or hæmatogenous tuberculosis.

The work of Dr. Ghon, begun in 1903, before he was aware of the publication of Küss, fully bears out the latter's conclusions, and negatives in this form of tuberculosis the conception of a retrograde transmission from the lymphatic glands of the hilum and mediastinum to the lung. It begins with an account and classification of the cases with a lung focus without and with other tuberculous changes, and with illustrative examples from his *post-mortem* records of each variety of case. It then discusses the number of lung foci, which are most commonly single; their characteristics with regard to appearance and size; their situation, mainly, though by no means exclusively, in the right upper lobe; their relation to the adjoining lymphatic glands; their significance with regard to the aerogenous origin of this form of lung tuberculosis in children; and, finally, the few cases in his series (fourteen) which were without a primary lung focus. Upon careful analysis of his data, Dr. Ghon comes to the conclusion "that in childhood the primary infection of the lungs represents the usual form of the tuberculous infection." This conception, implying as will be seen the aerogenous origin of the infection, is completely at variance with the view so

frequently upheld that pulmonary tuberculosis in children is of retrograde lymphogenous origin, and represents an advance in the knowledge of tuberculosis which is not a little important. The translation is excellently done, and we have noticed only one apparently mistaken rendering. "Küss will have observed" (p. xiii) would seem to stand for "Küss will beobachtet haben," for which the English equivalent would be, "Küss states that he has observed." The profession is indebted to Dr. Barty King for placing at its disposal a work of much interest and value.

Diseases of the Nose and Throat, Comprising Affections of the Trachea and Œsophagus. By Sir STCLAIR THOMSON, M.D., F.R.C.P., F.R.C.S. Second Edition. London: Cassell & Co., Limited. 1916. (25s. net.)

THE appearance of a second edition of Sir StClair Thomson's book confirms the very favourable opinion we expressed regarding the first edition when reviewing it about four years ago. The volume now before us is essentially the same, but with improvements and additions. Amongst the latter are descriptions of suspension-laryngoscopy, intranasal dacryocystostomy, the operation to reach the pituitary fossa by the nasal route, the intranasal operation on the frontal sinus, enucleation of the tonsils with the guillotine, nerve blocking to obtain laryngeal anæsthesia, and Le Bec's illustrations of the stages in laryngectomy. Many new authorities are quoted. We have noticed (pp. 171 and 176) two rather curious references, viz., Beiträge zur Anat. &c., des Ohres, &c., *Probeheft*, 1908. When referring his readers thus to a specimen copy he might have told them where one was to be obtained. The present volume has grown by about sixty pages. We would be glad to find future editions still larger. Additional chapters on affections of the mouth, the voice, speech disorders, and the thyroid would be welcome.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

SURGERY.

The Removal of Stones from the Kidney. By William J. Mayo (*Surgery, Gynecology, and Obstetrics*, January, 1917).—From 1st January, 1898, to 31st December, 1915, 484 operations for stone in the kidney were performed on 450 patients at the Mayo Clinic. Three died, a percentage of 0·6, but these figures are given without regard to the cause of death, or the length of time death occurred after operation.

Pyelographic examination indicates the part of the kidney actually lodging the stone, and is invariably used. Gall-stones cause confusion only occasionally. When stones are diagnosed in both kidneys, the less affected side is operated upon first, and the other usually ten to fourteen days later. A large branched stone may cause considerable laceration of kidney tissue during removal, and if such is present in the second kidney it is sometimes left alone unless symptoms from it arise. In 3 cases stones were found in a kidney where the other organ was absent, and in 2 cases in a horse-shoe kidney. There were two instances in which stone formation or re-formation occurred in the remaining kidney after nephrectomy. Multiple stones in the parenchyma of the kidney are prone to recur. Possibly these formations are secondary to hæmatogenous infections of the cortex.

In the surgical treatment the two great faults to avoid are soiling of the operation field with septic kidney contents and lack of proper hæmostasis. The incision mobilises the lower wall of the thorax, gives adequate exposure of the organ, and does not result in injury to important nerves or other structures. A cross-cut of muscle when properly sutured is almost never followed by hernia. Pelviolithotomy is the most generally useful operation, but if the communication between pelvis and cortex be so small as to cause fragmentation of the stone in attempts at removal, then a small counter incision should be made in the cortex and a drain inserted. Nephrolithotomy is seldom performed. It injures the kidney and is liable to be followed by secondary hæmorrhage four to ten days later, the hæmorrhage coming by way of the ureter. In nephrectomy when the kidney is encapsulated by a mass of connective tissue the lumbar incision may give such restricted access that the pleura or peritonæum is accidentally opened. These are of no great moment, but what is more serious is that on the right side

the vena cava or the duodenum may be injured. Subcapsular nephrectomy is largely employed, and the method of opening the capsule and ligaturing the vessels separately, devised by Federoff, is thoroughly effective.

—CHARLES BENNETT.

A Method of Re-establishing the Patency of the Ureter in Pyonephrosis. By Martin Molony (*Surgery, Gynecology, and Obstetrics*, January, 1917).—The author makes a preliminary report on his method used after nephrostomy for pyonephrosis. The patient was a woman of 36, whose symptoms of pyonephrosis with ureteral obstruction had become very marked during the previous twelve months. Nephrostomy was performed, septa and loculi broken down, and drainage tubes inserted. After some days the author decided to attempt restoration of the patency of the ureter. With the aid of the cystoscope a catheter was passed through the ureter to emerge at the loin wound. A No. 11 catheter was tied to the point of this and drawn down and out through the urethra. The end of the large catheter was cut off, and a strong plaited silk ligature attached to the cut end. The end of the catheter at the loin was pulled up until the lower end was in the bladder cavity, with the silk hanging out at the meatus. The silk caused no irritation to the urethra as the catheter would have done, and the bladder could be easily irrigated by solutions run in at the loin end of the tube. The large catheter was changed every few days by inserting a long stilette, withdrawing the old catheter and threading a new one over the wire. After three weeks the catheter was removed, and the patient was much improved.—CHARLES BENNETT.

Hæmostasis by Interposition of Muscle, Fat, and Fascia in Parenchymatous Organs. By Edward H. Risley (*Surgery, Gynecology, and Obstetrics*, January, 1917).—The purpose of the paper is to report results of experimental work in stopping hæmorrhage from such organs as the kidney and liver by the use of interposed tissues when other methods are impossible or undesirable. The two problems to be solved were (1) to find which tissue is the best hæmostatic, and (2) to determine the gross and microscopical results of the interposition. The author concludes that the ideal hæmostatic for use in hæmorrhage from parenchymatous organs is interposed muscle taken from the patient's own body at the time of operation. The muscle should be jaggedly cut with a knife and not crushed with scissors. Fascia and fat are not so good as muscle, but fascia is better than fat. The new tissue readily unites to the bleeding surface. The implanted tissue is largely transformed into fibrous tissue with formation of new blood-channels, but there is no degenerative change of note.—CHARLES BENNETT.

Fracture of the Neck of the Femur in Childhood. By B. H. Whitbeck (*American Journal of Orthopedic Surgery*, January, 1917).—It was not until 1890 that fracture of the neck of the femur was recognised as a possibility in childhood. Previous to Whitman's work at that time it was thought that the condition was confined to adult life. Whitman pointed out that patients with this injury may be able to go about in a few days, probably because the lesion is more a bending and breaking than a displacement or impaction. The author details reports of two cases, one of the patients having both femurs fractured,

the second within a few months of the first. On both occasions this patient was brought to the author while crepitus could still be made out under an anæsthetic. Crepitus, external rotation, and shortening of the affected limb were the outstanding signs, and while in one fracture there was abduction, in the other the limb was slightly adducted. The second patient was seen nine months after the accident. During the intervening time she had been going about, but occasionally suffering from attacks of pain in the hip, which were treated as rheumatism. The limb showed adduction and outward rotation, movements were limited and painful, but there was no crepitus. Skiagrams confirmed the diagnoses in both patients. Treatment was carried out under anæsthesia. The limbs were manipulated through the movements of abduction and inward rotation until measurements at normal full abduction showed that the shortening had disappeared. Plaster of Paris was then applied with the limb in abduction. Weight-bearing was forbidden for about six months.—CHARLES BENNETT.

ANÆSTHETICS.

Heart Failure during an Operation for the Removal of Tonsils and Adenoids—Heart Massage through an Abdominal Incision—Recovery. By W. M. Mollison, M.C. (*Proceedings of the Royal Society of Medicine*, Section of Anæsthetics, 3rd November, 1916).—A boy aged 6 years was operated on at the Out-patient Department of Guy's Hospital. He was anæsthetised by a mixture of chloroform and ether on an open mask. When ready the tonsils and adenoids were successfully removed. It was then noticed that respiration had ceased and the pupils dilated. Artificial respiration and the usual methods of resuscitation were resorted to without avail. The abdomen was opened in the middle line and the heart massaged forcibly through the diaphragm. Shortly respiratory movements began, and the pupils contracted. Pituitrin 1 c.c. was injected then into the heart, and thereafter the heart began to beat strongly. The author states that it is extremely difficult to make statements as to time in cases of great urgency, but the general impression of those present was that the heart had been stopped for fifteen to twenty minutes.

The after condition of the patient for seven days showed more or less unconsciousness—with rigidity of the limbs and choreic movements, and at times he became very violent. These symptoms were evidently due to the long period of cessation of circulation causing damage to the brain. He ultimately made a perfect recovery.—J. P. BOYD.

The Handling of Hazardous Risks in Genito-Urinary Cases under Anæsthesia. By Moses Salzer (*American Journal of Surgery*, Quarterly Supplement of Anæsthesia, January, 1917).—In operation for such cases the author states that the proper handling of the procedure is to be considered under the following heads:—

1. *The preparation of the patient.*—It is essential to make a careful functional test, preferably the phenosulphone-thalein. If the test is low, rest in bed is indicated with an attempt to increase the fluid intake by giving Vichy or any

other alkaline waters, and also careful dieting. As a result the thorough alkalization of the patient should be brought about, the urine becoming persistently alkaline to methyl red. Bowels must be carefully regulated, but undue purgation avoided.

2. *The actual administration of the anæsthetic.*—An hour before operation atropin (gr. $\frac{1}{150}$) and morphin (gr. $\frac{1}{4}$) are given, and the best anæsthetic is nitrous oxide-oxygen.

3. *The after-treatment* consists in the pushing of the alkaline waters both by mouth and bowel.

Pituitrin hypodermically and saline intravenously are the mainstays if evidence of shock or scanty urinary secretion follows the operation.

—J. P. BOYD.

Observations on the Relation of Blood-Pressure to Anæsthesia. By Mary V. Madigan (*American Journal of Surgery*, Quarterly Supplement of Anæsthesia, January, 1917).—The taking of the blood-pressure is advocated during operations. The statement is made that when the patient is brought to the operating room there is a rise in blood-pressure, but after the administration of ether there is a gradual drop in blood-pressure from the beginning to the end of the operation. The various theories as to the causation of shock are discussed. Clinically it is recommended that the patient should not be allowed to spend a restless night preceding the operation. Fear and excitement are allayed by morphin and atropin half an hour before the operation. When shock has developed efforts are made to prevent its progress, also to restore and maintain blood-pressure level at or near normal. This can be done by "epinephrin" in saline solutions, 1 in 50,000 or 1 in 100,000 intravenously. Strophanthin intravenously produces a prolonged rise of blood-pressure. The head should be lowered in all cases to prevent anæmia of the brain, and artificial respiration resorted to when required.—J. P. BOYD.

Six Months' Work in Anæsthesia. By Alma Vedin (*American Journal of Surgery*, Quarterly Supplement of Anæsthesia, January, 1917).—The anæsthetics used have been, as a routine, ether by the drop method preceded by nitrous oxide in adults and ethyl chloride for children. In head and neck cases endotracheal or pharyngeal insufflation has been used, and in minor cases nitrous oxide and oxygen or ethyl chloride. Chloroform has seldom been used on account of the danger. A few drops have been added occasionally to deepen ether anæsthesia. During 1915 there have been 15 cases of post-operative pneumonias out of 1,413 operations, or 1.06 per cent. All the cases followed laparotomy. The author says that one of the greatest factors in the etiology of post-operative pneumonias is the operative night-gown. Many of the patients entering a hospital are accustomed to sleep in heavy woollen or flannel underwear. They then are given light muslin gowns split up the back. On the operating table there is often only a couple of layers of cotton sheeting between the metal operating table and the back of the patient.—J. P. BOYD.

The Nurse-Anæsthetist in Kentucky Michigan, and Ohio (*American Journal of Surgery*, Quarterly Supplement of Anæsthesia, January,

1917).—It seems that the medical associations of these three States protest against the employment of other than qualified physicians as anæsthetists except in cases of emergency. The editor's comment is that the profession at large is gradually awakening to the fact that the nurse-anæsthetist abuse is an insidious treachery within the ranks of legitimate licenced practitioners, and radical measures are being adopted to stamp out the illegal and unethical administration of anæsthetics.—J. P. BOYD.

Books, Pamphlets, &c., Received.

- Diseases of the Throat, Nose, and Ear for Practitioners and Students, by W. G. Porter, M.B., B.Sc., F.R.C.S. Second edition. Fully revised for the author during his absence from England in the service of his country by P. McBride, M.D.Ed., F.R.C.P.Ed., F.R.S.E. With 77 illustrations, 44 of which are in colours. Bristol: John Wright & Sons, Limited. 1916. (7s. 6d. net.)
- Extra-Ocular Pressure and Myopia, by Islay B. Muirhead, M.D. London: John Bale, Sons & Danielsson, Limited. 1916. (3s. 6d. net.)
- Clinical Methods: A Guide to the Practical Study of Medicine, by Robert Hutchison, M.D., F.R.C.P., and Harry Rainy, M.D., F.R.C.P. With 14 colour plates and 147 figures in the text. Sixth edition, revised throughout. London: Cassell & Company, Limited. 1916. (10s. 6d. net.)
- A Treatise on Materia Medica and Therapeutics, including Pharmacy, Dispensing Pharmacology, and Administration of Drugs, by Rakhaldas Ghosh. Edited by B. H. Deare, with the assistance of Birendra Nath Ghosh. New edition. Calcutta: Hilton & Co. 1916.
- Medical Diseases of the War, by Arthur F. Hurst, M.A., M.D., F.R.C.P. London: Edward Arnold. 1916. (6s. net.)
- International Clinics: A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. Edited by H. R. M. Landis, M.B. With the collaboration of Chas. H. Mayo, M.D. Vol. III. Twenty-sixth series, 1916. London: J. B. Lippincott Company. (35s. net, four vols., quarterly.)
- Manual of Psychiatry, by J. Rogues de Farsac, M.D., and A. J. Rosanoff, M.D. Fourth edition, revised and enlarged. London: Chapman & Hall, Limited. 1916. (10s. 6d. net.)
- The Catarrhal and Suppurative Diseases of the Accessory Sinuses of the Nose, by Ross Hall Skillern, M.D. 287 illustrations. Second edition, thoroughly revised. London: J. B. Lippincott Company. 1916. (21s. net.)
- Ligations and Amputations, by A. Broca, translated by Ernest Ward, M.A., M.D., F.R.C.S. With 510 illustrations. Bristol: John Wright & Sons, Limited. 1917. (8s. 6d. net.)
- Encyclopædia Medica. Second edition under the general editorship of J. W. Ballantyne, M.D., C.M., F.R.C.P.E. Vol. IV: Ear to Filariasis. Edinburgh and London: Green & Son, Limited. 1916. (20s. net.)

**GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR
THE FOUR WEEKS ENDED 24TH MARCH, 1917.**

	WEEK ENDING			
	Mar. 3.	Mar. 10.	Mar. 17.	Mar. 24.
Mean temperature, . . .	41·5°	32·0°	39·9°	39·5°
Mean range of temperature between highest and lowest,	7·7°	7·7°	10·3°	9·3°
Number of days on which rain fell,	5	4	3	5
Amount of rainfall, . ins.	0·36°	0·68°	0·13°	0·47°
Deaths (corrected), . . .	362	352	382	348
Death-rates,	16·9	16·4	17·9	16·3
Zymotic death-rates, . . .	1·1	1·2	1·8	1·9
Pulmonary death-rates, . .	5·4	5·5	4·7	4·4
DEATHS—				
Under 1 year,	61	63	88	65
60 years and upwards, . .	113	105	116	76
DEATHS FROM—				
Small-pox, . . . . .	...	...	...	...
Measles,	2	7	10	13
Scarlet fever,	1	1	1	...
Diphtheria,	2	2	6	1
Whooping-cough,	18	16	24	28
Enteric fever, . . . . .	..	...	...	...
Cerebro-spinal fever, . . .	1	1	2	2
Diarrhoea (under 2 years of age),	2	2	6	8
Bronchitis, pneumonia, and pleurisy,	95	88	88	73
CASES REPORTED—				
Small-pox, . . . . .	...	...	...	...
Cerebro-spinal meningitis, .	4	2	4	4
Diphtheria and membranous croup,	23	21	37	37
Erysipelas,	15	22	18	27
Scarlet fever,	50	46	55	42
Typhus fever, . . . . .	..	...	...	...
Enteric fever,	2	2	9	1
Phthisis,	70	63	34	77
Puerperal fever,	1	6	2	2
Measles,*	286	395	430	484

* Measles not notifiable.

THE
GLASGOW MEDICAL JOURNAL.

No. V. MAY, 1917.

ORIGINAL ARTICLES.

THE MODERN DEVELOPMENTS OF RADIUM AND
X-RAY THERAPEUTICS.*

By JOHN MACINTYRE, M.B., C.M., F.R.S.E., F.R.M.S.,

Professor of Laryngology and Dean of the Medical Faculty of The Anderson
College of Medicine, Glasgow ; Lecturer on Diseases of the Nose
and Throat, Glasgow University ; Consulting Medical
Electrician to the Glasgow Royal Infirmary.

LADIES AND GENTLEMEN,—I received a very kind invitation from your Secretary, Mr. Lubovius, in the early part of this winter to give a demonstration to the members of the Glasgow University Medico-Chirurgical Society, and I had much pleasure in promising to do so. The request was made to me through the Superintendent, Dr. J. Maxtone Thom, who had asked for and got permission from the managers to arrange for the demonstration. I have to thank both for their kindness in

* Demonstration given to members of the Glasgow University Medico-Chirurgical Society in the George V Electrical Institute of the Glasgow Royal Infirmary on 15th December, 1916.

granting the request and for making the arrangements for the demonstration.

My first duty is most cordially to thank you for the very large attendance with which you have honoured me to-night.

Your president, when introducing me, referred to my being at the head of the Electrical Department in the Royal Infirmary; but it is my duty to tell you what is my exact position in the institute. As far back as 1887 an Electrical Department was instituted in the Glasgow Royal Infirmary, and I was requested by the managers to take charge of it. It was, as I have said elsewhere, a very modest installation; but, perhaps for the first time in any hospital, arrangements were made for carrying wires to all parts of the Infirmary, so that we could not only treat patients at a central department but that electrical currents could be distributed throughout the wards.

In 1894 a much more important set of apparatus was installed, and proved of great use in the treatment of medical and surgical cases. However, in 1896, a very few months after the world-wide discovery of Roentgen, a really important *x*-ray laboratory—the first of its kind in the world—was installed in the hospital, and a full equipment of modern electrical apparatus was added. The work by this time had got so very heavy, and the number of patients attending the outdoor and indoor departments so large, that it became necessary that the staff should get definite positions, and be entrusted with far greater responsibilities.

As you know, my work in the Royal Infirmary is in the Department for Diseases of the Nose and Throat, and all my work in connection with the Electrical Department has been purely honorary. I therefore wish to say that the installations I refer to and the installation which I hope you will visit to-night made such demands that I could do little more than advise and help those who were working along with me. So I should like to make it perfectly clear that, although I have designed and instituted the institute, with the valuable and hearty assistance of the managers, still my position is that of Honorary Consultant to the Electrical Department, and the great work has been done under the superintendence of Dr. James B. Riddell, ably assisted by Dr. Capie, Dr. Katherine Chapman, and latterly by Dr. J. Gibson Graham. The figures

showing the thousands of patients passing through the indoor and outdoor departments every year are enough to indicate how serious is the responsibility of those working in the institute, and I have the greatest pleasure in recording my appreciation of the medical, nursing, and engineering staffs of the Department.

Now the present installation, which is one of the finest—if not the best—in existence, taken as a whole, was opened by His Majesty King George V on 7th July, 1914, and I should like to point out to you that while the managers of the Royal Infirmary have been most friendly and loyal in co-operating with the staff, it is only right that it should be known that the annual expenditure of the hospital was so heavy that it was quite impossible for the managers, however liberal might be their intentions, to provide the necessary apparatus for a new department like this. Glasgow has always been fortunate in having loyal, generous, and interested helpers in all that concerns the welfare of patients in this and every other hospital within its boundary, and, thanks to the generosity of a few of our citizens, sums amounting to over £10,000 were from time to time placed at my disposal for obtaining the installation. In this way the managers were relieved of the burden of providing the apparatus, but, on the other hand, they have been most loyal and generous in meeting the expenses of working the institute, a fact which should not be forgotten in these days, when the expenditure for last year amounted to over £60,000.

The selection of a subject for to-night's demonstration is by no means easy when we consider the many different ways in which electricity is now used for diagnosis and treatment. If I mention a few of the departments it will serve the double purpose of showing why I have elected to confine my remarks from the diagnostic standpoint to the use of *x*-rays, and to say something about radium and *x*-ray therapeutics. Afterwards, I trust you will visit the Electrical Institute and so get an idea of the different departments and the great work carried on from day to day.

For example, I might have chosen a comparatively new instrument known as the electro-cardiograph. It is a very long time ago since the physiologists showed us a somewhat

rare experiment to demonstrate that when the muscles contract an electric current is generated. We have now reached a point at which we can not only prove this to be the case, but we can by delicate instruments take records from time to time. When the heart contracts in a healthy individual the movements begin at the great veins and spread downwards through the auricles to the ventricles, and in this way the blood passes through the veins into the arterial circulation.

You all know that many instruments have been designed for recording movements of the pulse and the pressure as well, but in the first year of this century an ingenious instrument called the polygraph was designed by Dr. James Mackenzie, by means of which pulsations of the veins of the neck were recorded on a strip of paper, and on the same strip could be seen the records of the arterial pulse. As a result of this, it was possible to appreciate for the first time alterations in the action of the auricles and to correlate their activity and that of the ventricles.

Gaskell at Cambridge during the first ten years of the century made it possible by his researches to examine critically the disorders of the cardiac action which occur in diseases, and to discover the site of the origin of the pathological changes; but the instrument I refer to is known as the electro-cardiograph, and Einthoven, of Leyden, devised the string galvanometer so that examination of pathological conditions became possible. The instrument which is used in the Glasgow Royal Infirmary is the latest design, and was manufactured by the Cambridge Scientific Company. The electrodes are placed to the limbs of the patient and the galvanometer is influenced by the electric currents produced by the movements of the heart. The currents are very fine, and yet they can act upon a very delicate fibre placed in a magnetic field. The movements are increased by the microscope so as to show the shadows of the moving of the fibre which can be produced on a photographic plate or film. The result is that the information about the disturbances of the cardiac rhythm is rapidly being increased, and a visit to the room where this delicate instrument is situated must be of interest to all of you.

I might also have taken up, had it not been for the short time at my disposal, the instrument necessary for the

production of diathermy. You will, however, see the instrument afterwards in the Electrical Institute, and briefly stated, it may be said that the heat generated by such an instrument produces an internal change of temperature in cases where we are not applying heat as if it were from electric light or hot air baths or compressors, &c. It is a method of high-frequency, and its development was derived from the ideas evolved in the region of wireless telegraphy. This instrument is being used by the physicians in cases of rheumatism, diabetes, and diseases of the heart, &c.; but the surgeon also uses this instrument, because by a single electrode he can produce coagulation of blood, and in this way can stop hæmorrhage during operation; he can actually destroy tissues without hæmorrhage. The current can be applied to a cavity where a surgeon requires to operate even inside the osseous structures, and tumours which are inoperable can be removed without loss of blood, while the tissues themselves are at the same time sterilised.

I might also have selected the recent electric therapeutic apparatus for diagnosis of diseases of nerves and muscles, or the instrument for the reduction of obesity.

To-night, in the first instance, I wish to prepare you for the demonstration in the Electrical Department, and also to give you an idea of the great work which is being done by those who are engaged in the particular work in the Electrical Department. Thousands upon thousands of cases have been treated with the best results by way of cure or amelioration, and the field is one which gives rare promise in the future, both with regard to the beneficial effects to be obtained by a study of the principles involved and the use of proper scientific instruments. The choice of subjects, as you will see from what I have said, is great, but I have selected two—some interesting points in the study of *x*-rays; and secondly, radio-active bodies viewed mostly from their action on the photographic plate, and their physiological or therapeutic action upon the tissues in health and disease. In order to make these things quite clear I intend going over some of the simpler and elementary aspects of the subject, and will now refer to what takes place when an *x*-ray tube is excited, with special reference to different *x*-rays that may come from it: and

secondly, to show you the effects of the salts of bromide of radium as an example of a radio-active body with other salts of the same metal, and in this connection we will consider carefully what is meant by the term "emanation." To many these facts may be familiar, but in order to get the true appreciation of this branch of modern science and its objects it is necessary to let the student know upon what lines we are working.

I have placed in the middle of the room here an ordinary *x*-ray tube of a simple construction, and when I, by means of an ordinary current, excite the tube by means of a interrupted current from the mains you will see that it is divided into two portions by a line: on one side there is the green fluorescent part of the tube, while on the other there is a dark or bluish colour to be seen.

Now, when the current passes through the tube or through what is termed the cathode, especially the latter, which is concave and forms part of a circle, a stream of bodies from the negative concave aluminium cathode passes to a focal point in a hard metal substance such as platinum or iridium, which is the anode. The so-called *x*-rays are reflected in such a way as to fill the green portion of the tube, and to cause the fluorescent green colour owing to the chemicals which are contained in the glass.

Now, careful examination and experiments have shown that the *x*-rays coming from the tube differ in many respects. In the first place, for the convenience of description and also practice, we have certain emanations—fine matter—which are called the alpha rays. We have a second set called the beta rays, and they are also a very fine matter. We have a third class called the gamma rays, about the nature of which there still exists some doubt, although many think they are waves in ether, probably something of a spiral nature.

Now, the first experience which operators discovered when working with these excited tubes was the fact that the skin or other parts of the body were apt to be seriously damaged, so-called *x*-ray burns, and, curiously enough, it was often noticed that with certain tubes there was a distinct tendency to do mischief if the exposures were prolonged, particularly when the tube was of the kind that is usually called a "soft tube"—that is to say, where the vacuum has been considerably reduced

Not only are some of these dangerous, but destruction to a large area of tissue has occurred which has been exceedingly difficult to cure. In many cases the results have been the starting-point of a carcinoma which finally proved fatal to the operator and in some cases, unfortunately, to patients as well.

To obviate the dangers to operators you will notice when you go to the Electrical Department that all the cubicles for treatment are lined with thick lead, or lead windows are inserted through which the operator can see. When the tube has been adjusted in relation to the patient the door is closed and all the work of the apparatus is seen from the outside during the desired length of treatment. In this way the doctors and nurses have been protected to a very marked extent. The same precautions are carried out when taking *x*-ray photographs. It is well known that the tissues of the reproductive organs suffer greatly both in the male and female. A prolonged exposure even of short doses of *x*-rays over a long period will produce sterility.

Learning that there were different rays which could be utilised for different purposes the efforts of the experimenters in the early stage were very soon directed to the use of screens of some metallic kind or of india-rubber. It was soon found that the alpha rays could easily be cut off, and they are very dangerous. It was also found that after using screens of different thicknesses some or all of the beta rays could be cut off, leaving only the gamma rays which are very valuable for therapeutic purposes. The third class—the gamma rays—are only a small percentage of the great mass of rays which come from an excited tube, but they are valuable in treating deep-seated organs, and hence the term deep-seated therapy.

The first lesson, therefore, which I wish to impress upon you is that by means of screens we can allow the patient to get the benefit of the gamma rays or some of the beta rays which have great penetrative power, passing through the tissues of the human body without affecting the superficial ones, and that has led to the very important work which has proved of great value in fibroid and other tumours. The statistics from different parts of the world show that we have a promising field in the treatment of fibroids, the result of which is reduction of the tumour in size and the arrest of hæmorrhage: in many cases the patient may be restored to health without operation. The

most favoured theory at present would seem to be that the action is reflex owing to what takes place by the action of the rays upon the ovaries.

The measurement of x -rays is, of course, of great importance, as we wish to be able to know when photographing a patient what is the current employed, but it is even more so when we are measuring the dose in therapeutic work.

It should also be remembered that no part of the body should be exposed other than that which is to be treated or photographed. Further, we must always consider what is required in a particular case. For example, we might wish to avoid all irritation of the skin whatever, and yet in other cases it may be necessary to push the therapeutic rays to an extent which will produce redness or most severe reaction.

Now, it is very important, when we are going to use a tube for diagnosis or treatment, that we should have rays of sufficient penetration to reach the part which is to be photographed at the proper depth, and the penetrating power varies with the strength of the current used. This must be so if you remember that the vacuum of a tube is constantly changing, and all tubes therefore are apt to give us some of the soft rays as well as the hard rays. It therefore becomes necessary in some way or another to get a correct idea of the quality of the x -rays we are using by means of some instrument for measuring the penetrating power. The principles involved in most instruments are based upon the effect that the transparency of the metal silver is less effective to the quality of the rays than many other metals. Consequently, if we pass the rays through the silver on to a fluorescent screen, the metal shows an equal degree of luminosity whatever rays are passing through the tube. By making a successive series of steps of different thicknesses one can place as many layers of metal in sections so that the steps would be from one millimetre up to any number of millimetres required. By this means Benoist, Mehnelt, and Christen made comparatively simple apparatus, by means of which we can rapidly if approximately know the penetration of a tube.

It has been possible by using a static volt metre, such as was made by Bauer, to measure the electric motor force at the negative electrode. The old method, of course, was to measure

the equivalent spark gap which is attached to every coil. In this way we got inaccurate measurements, which to some extent suited our purpose. All these instruments may be seen in the Electrical Department.

But when we come to the question of therapeutics, we require greater exactitude so as not to burn our patients. An important point to remember is that the conditions should always be presented in exactly the same degree, so that each dose from day to day will be as nearly as possible the same as the previous one administered. It is therefore necessary to know the intensity of the rays, and to keep them as nearly as possible the same. The tube must be the same distance from the object, the time of the exposure must be the same, and science at present can only measure the *x*-rays indirectly. We can also judge of the effects of the rays from the standpoint of chemical or electric or other forces.

Now, I wish to show you some of the chemical changes, and to note the degree of change in colour of some salts, by which change we can measure the doses. Sabourand and Noire made pastilles of barium platino-cyanide, the same agent that is used for our fluorescent screens, and by simply covering up one half of the piece of metal for comparison, the changes in one half which take place from green to red and brown can be noted, and these changes can be divided into the different tints or colours. In this way one can judge, especially when compared by a coloured disc which is supplied by instrument makers, when a sufficient dose has been given to react upon the tissues therapeutically and yet not to burn.

Kienboeck used strips of bromide of silver paper: the strips of sensitive paper were placed on the screen, and then by noting the range in the colour it was possible to divide the doses, say, for ten or more applications. Then by using screens of different thicknesses it was possible to judge the quantity of rays obtained at a given depth below the skin. The difficulty, however, is that we do not know the result until we have developed the sensitive silver strips. Other methods I could refer to, such as chromo-quantimeters, but what I have referred to above is sufficient to show you the principles. The question of time is also an important one, and for this special purpose instruments, often automatic, for measuring the fraction of a

second or number of seconds or a minute have been devised, and at the proper time cutting off the current.

Whether we take stereoscopic pictures or content ourselves with single ones, it should be pointed out here that the best work in radiography cannot, of course, be got without the greatest attention being paid to details, and it is just because of this that recent work in hard and soft tissues is very much in advance of what it was even ten years after the discovery.

Where there is time it is important to make most careful examination by means of the screen to see that the tissues, whether hard or soft, are seen with the fullest detail. The part of the patient to be photographed should be thoroughly screened in the first instance, and the following arrangements, amongst many others, are absolutely necessary if we wish good pictures:—

First of all, the tube itself must be placed in such a position that the centre of the anode is exactly in a line which would correspond to an optical centre when ordinary light is used, so that in the apparatus to be seen in the Electrical Department a straight line is taken from the centre of the anode to the centre of the photographic plate.

Next, not only must the tube be placed in a horizontal line in front of the screen, but we must be able to rotate the holder of it on an axis, so that we can bring the centre of the cathode rays into the line referred to. It must be remembered that the *x*-rays coming from an anti-cathode are in the form of a cone, and if you simply use the tube as it is you get blurring of the pictures owing to the diverging rays. The further, therefore, you can place the patient from the tube the more you will get the central rays which do not diverge, but if he is too near you will also get the outer or more diverging rays, which spoil greatly the outlines of the structures. We therefore place a diaphragm of lead between the tube and the patient, and by closing and opening during the examination with the screen before photographing we choose the aperture necessary to get the very best effect. Diaphragms of lead usually are made in the form of the ordinary iris photographic plate.

But more than that, every well made tube holder should be so arranged that the tube can be adjusted horizontally or vertically, and the distance from the patient to the anti-cathode

should be varied, and the best method of doing this is an arrangement which will enable the tube to be approximated to, or taken away from, the object that is being photographed.

I will show you a number of photographs taken here, such as the spine, lungs, heart, diaphragm, larynx, interior of the skull, foreign bodies in the œsophagus, and stone in the kidney, of all which objects the earliest photographs were taken by myself.

Now, at the time I refer to, exposures sometimes varied from a few minutes to an hour or an hour and half, but it became easily apparent to those who are working on the lines which I have indicated above, that if we used sufficient quantity it would be possible to take *x*-ray photographs with one flash of the tube and in the fraction of a second. Such a photograph of the hand, the first one ever taken, was shown by me at the Royal Society of Edinburgh in March, 1895, but we have progressed since then. I here show you a picture of the apparatus produced by a transformer and a coil so that our 250 volts direct current are brought to an alternating one and carried from two centres, so that one flash is entirely luminous, and with a powerful coil it is possible to take one picture of the interior of the human body with one flash of the tube in not more than the three-hundredth part of a second. But to accomplish it we are helped by another set of screens totally different from those I have mentioned before, their object being by chemical actions to increase or accelerate the action of the *x*-rays on the photographic plate. The principle involved is that a so-called accelerating screen becomes luminous, and this has proved of great help to us in getting the best work.

As early as 1896 I showed an *x*-ray photograph of the bones of a frog's arm to the Royal Society, London. I shall show some pictures showing the living heart by means of a diagram, and also the movements of the stomach during digestion. By a complicated but accurate arrangement the apparatus works automatically, and a series of pictures can be taken so quickly that we can show a cycle of the heart movements, or those of the stomach and intestines after a bismuth meal has been taken. It is not difficult to imagine how invaluable this instantaneous *x*-ray work may prove in the future to the physiologists as well as physicians and surgeons.

In the demonstration to-night you will see also the

marvellous development which has taken place in tables for taking photographs from above or from below, and the arrangements whereby a metal diaphragm between the x -ray tube and the plate cuts off all the strong rays and gives a fine definition.

There is a special branch of the work to which I must give great prominence, and that is the stereoscopic. From my earliest studies of x -ray work I have always said the full value of the photograph, negative or positive, can never be obtained by a single photograph. When we include the third dimension in space it is different. I have here a large number of stereoscopic pictures, and after the demonstration, if you will look at these carefully, you will see exactly what is wrong in a given case as compared with the ordinary photograph, positive or negative.

This work is also of value to the anatomist in many directions; not only does it show the structures of the interior of the bone, but, as you will see from some coloured plates I have here, that if the anatomist should inject the arteries with red and the veins with blue, by taking two photographs stereoscopically and photographing each through a blue or a red plate one colour is suppressed in each, with the result that when it is examined by an ordinary pair of stereoscopic lenses the whole of the injected vessels of blood can be seen in relief, the arteries being coloured red and the veins blue. In this way an injection can be shown, and the structures of bones and vessels in a way that nothing else could do.

When you are in the laboratory I hope you will also observe the different instruments which are now in use for measuring the distance at which a foreign body may lie from the surface, and the exact position it occupies in the body. By means of such instruments, first introduced by Sir James Mackenzie Davidson in London, surgeons can accurately cut down upon any part of the eye, or, in the case of a bullet, on any part of the limb or interior of the body. There are now many simpler instruments, and these you will also see.

Lastly, when the x -rays fall upon the fluorescent screen it is quite possible to see the shadows without taking a photograph, and most of the valuable work can be done in view of fractures and dislocations without taking photographs at all. Further,

in the extraction of foreign bodies from the œsophagus the patient can be placed on the table, the tube lying below and the fluorescent screen above, and one can see the instrument and use it in removing the foreign body. Physicians are making great use of this method for detecting shadows and movements of the viscera, and a great deal of light has been thrown upon the movements of the œsophagus, stomach, and bowels during the digestion of food, and a study of the shadows of the stomach and viscera under these new conditions has completely changed our ideas of the exact position in which they lie. Much of our literature on physiology and anatomy will have to be re-written when further research has been made.

Coming to the second subject selected for to-night's demonstration, I will call your attention to the extraordinary changes which have been brought about by the discovery of the radio-active bodies, the best known of which is radium.

The study of radio-active bodies has changed a great many things, and a new chapter has been opened in science which is bound to revolutionise a great many of our former ideas, both from the physiological and therapeutic standpoint.

The discovery of *x*-rays was largely accidental, but the same cannot be said of the radio-active bodies. Shortly after the discovery of the *x*-rays, Poincaré raised the question of the possibility of the *x*-rays accompanying fluorescence, as they apparently were due to fluorescence of the glass tube. The question of phosphorescence was studied by Henry and Becquerel, and also the relationship of fluorescence to phosphorescence due to the action of certain salts, such as calcium, barium, and luminous bodies and the well-known luminous paint.

A number of bodies were discovered by these scientific workers which had the curious power of passing through substances giving protection from ordinary light, and these it was found acted upon photographic plates. The uranium salts were first investigated, and inasmuch as it was found that the action was independent of the exposure of the object to ordinary light, as in the phosphorescent bodies, Becquerel's name was given to the rays which produced the results.

Crookes discovered that the radiation of the salts of radium

was due to an impurity, but he extracted the radio-active residue which he called U.x by dissolving it in ether and crystallising out.

Madame Curie discovered that certain minerals, such as pitchblende and chalcolite, were much more active than the uranium salts. Hitherto, investigations had shown that it is a pure oxide radium which is largely used in the manufacture of glass, especially German glass, and to this the fluorescence in the tube was clearly due.

Madame Curie's idea was to split the pitchblende into different classes by chemical means. The metals of lead, copper, and bismuth were removed: afterwards iron and zinc were separated, then a body combined with bismuth and sulphur was isolated, and this was called polonium after Madame Curie's native country.

Finally, after the most patient and careful experiments, two salts of radium were obtained, the barium and the radium chlorides, and it was found somewhat difficult to separate these, as radium in the form of chloride is less soluble in water than the barium salt. It is possible by a very expensive process finally to separate the chloride from the barium salt. In the end the pure radium chloride is found to be of great service in the study and application of radio-active bodies, because, if we take uranium as the unit, the radium salt is one million five hundred thousand times more active than it.

Shortly after the discovery of radium salts it began to be apparent that something was given off from radium, and the term "emanation" was given to this.

Crookes invented a very simple and ingenious apparatus to demonstrate this. A small screen of barium platino-cyanide was put inside a small box, and an arm of metal was arranged so that a very very small quantity of radium could be put on the tip of the arm, and at such a distance that the bodies which came from the radium in through the passage backwards towards the chemical substances bombarded these, which were usually spread on a piece of cardboard. If a lens be put in front of this, and especially if the experiment be tried in a dark-room, by focussing the lens one can see the endless and continuous bombardment by flashes of light when the screen is struck by the matter which is radiated from the salts.

I have quite a number of these on the table ; some are eight or ten years old, and they are apparently just as active as when I first got the apparatus.

I need not remind you who have gone through your chemical course what is meant by the terms molecules and atoms. By using the atomic weights we simply mean that a certain element has a greater atomic weight than an atom of hydrogen. Physicists are inclined to think that if we could get substances of very high atomic weight they would not be stable, and consequently the radio-active substances, such as radium, whose atomic weight is 258, are undergoing some change. In other words, they are breaking down. The forces in the molecules could be liberated in various ways, as in the form of heat, but they may also be radio-active bodies, and the atomic weight of the emanation has been shown by Rutherford to be something less than that of radium. Curiously enough, this emanation changes into helium, which is a very low atomic weight as the smallest atomic weight of force. As Messrs. Levy and Willis put it, if we could reverse the process and turn the lower one into the higher, the dream of the old alchemists, who sought to turn the baser metals into gold, might not be an impossibility.

Helium was known before, because, by means of spectrum analysis, it had been detected in the sun as far back as 1868. Ramsay discovered helium upon the earth in 1895. It was very often discovered that where helium is to be found you have radio-active material, and the presence of radio-active substances have been detected in many spas.

The term "emanation" has come into use, and very properly, because the something which is coming from radium is derived from the salts. It appears to be gaseous ; although it cannot penetrate dense substances, it will easily go through paper layers and cotton, and is easily detected in water when the bubbles arise ; and this is a most important point, it can be condensed by extreme cold, and it causes the glass in which it is contained to become self-luminous. Heat would appear to drive off the emanation, although the application of it to radium causes a greater radio-activity until it attains a great heat.

Now, these emanations have been classified into the alpha,

beta, and gamma rays, and you will now see from what I have said that in medical therapeutics there is a great resemblance in many ways between the rays which come from radium and those which come from the *x*-ray tube. It should be noted also that here, as in the case of the *x*-rays derived from a tube, the screens may be utilised for therapeutic purposes.

From what I have said it must be quite apparent that a very very small quantity of radium salts can be extracted from the pitchblende, because the ore from which it is taken is considered of high value if one in ten millions can be extracted. Not only are the ores expensive, but the chemical processes are prolonged and costly.

Now, the price of radium is almost prohibitive to the great mass of the people, hence the value of an emanation tube—that is to say, the physicists can collect the radium into small glass tubes, or in the form of discs or a flat surface, or by forming the glass into flat coils. These are enclosed in screens of silver or lead according to experience, and in this way we can give the patient the benefit of the emanation tubes which are much less costly, of course, than the salts themselves.

In the Radium Institute of Paris, where they have a great quantity of soluble and insoluble salts, they use the salts for the most part for chemical purposes. In the Radium Institute, London, thanks to the wealthy and generous men who support it, there is sufficient wealth of material to enable operators to have the use of emanations in tubes or the salts themselves. The greatest praise must be given not only to the donors but also to the staff of the Radium Institute in London for the very great courtesy they have shown in allowing practitioners to get emanation tubes at a comparatively small cost, and, even where patients cannot pay anything, to let the poor get the benefits as well as the rich.

In Glasgow I took an active interest in the formation of the Radium Committee, and, thanks to the generosity of the citizens of Glasgow, I collected eight thousand pounds to buy a fairly large quantity of radium, but not enough to let us experiment much in the way of applying the radium salts themselves. Hitherto, therefore, we have entirely used emanation tubes. The committee has arranged a series of rules, so that practitioners may have the use of it, and the large hospitals in

Glasgow are all having supplies sent to them. The results cannot be published until the Radium Committee reports.

I was fortunate enough myself, early in 1896 and afterwards, to get a considerable quantity of radium bromide, so that for many years I have been able to judge for myself what might be the therapeutic value and possibilities of the salts of radium from the therapeutic standpoint.

With a view to testing it, I first of all tried an experiment on the living arm by simply putting on 10 mm. in a case covered with mica on the skin for one hour's application. Nothing was seen, but four days afterwards a slight redness and irritation was discovered. Finally, the arm got swollen from the wrist to the elbow, and the swelling continued for four months. My own conclusions were supported in a communication from Sir Oliver Lodge, viz, that the action was due to the alpha rays and possibly to some of the beta rays, and possibly also to the x -rays. We now put on screens of lead, or silver, or other metals varying from 1 mm. in thickness to anything required. It was found afterwards that these metals gave off secondary rays which are apt to burn the skin, so that we put on from twelve to twenty-four layers of black paper to absorb these secondary rays, and so save the patient. We also very often put a small bit of dressing or lint in addition to the paper between the emanation tube and the skin.

The emanations may be used, as I have stated, in tubes, but they can also be spread on a paper surface for application in skin affections. A little pains may be required to devise an instrument for each patient. For example, as early as 1896 I published some results of cases in which I had placed the radium bromide salts in these aluminium tubes, which were inserted into the depths of sarcomatous or other tumours. This method has been improved upon by certain experimenters who use fine tubes, almost like hypodermic needles, so that a circle of these can be arranged round the growth.

A very popular way of attacking such a tumour is to use the method which is known as "cross-fire"—that is to say, you put two applicators opposite each other so that the tumour will be attacked to a given depth and from opposite points. For skin and other superficial affections the emanations can be spread on paper.

In addition to these methods, the possible prevention of recurrence has caused many surgeons to introduce a tube of radium immediately after an operation, say, where amputation of the breast has taken place—for example, a strong radium emanation tube or tubes of radium salts themselves, screened properly, and introduced for a given time into the wound—the idea in this way being that the emanations may kill the growth of any minute or even microscopic portions which may have been left, however large the incision or opening, and however careful the surgeon in dissecting the parts even down to the ribs. Further, in this connection we must not forget that the lymphatics of the breast pass through the intercostal spaces, and in this way it is hoped that by deep penetration mediastinal secondary affections may be prevented.

I have put on the table a large number of applicators used in my private practice and in the Royal Infirmary. The different screens are shown, and also the methods of application. One advantage that the bromide salt has in therapeutic work is the fact that it remains constant, as the emanations are constantly given off from the salts which are distributed in the emanation tubes. Emanation tubes of a given salt rapidly fall in radio-activity to a certain strength, and then at a slower rate, but finally they fall to zero.

When applying radium to the parts it is very important to note that if you are using the salts themselves for a given time the constancy of the agent is of importance, and herein lies the great advantage as compared with emanation tubes. You can measure the radio-activity and count the number of minutes or hours. The measure is stated in strength and time, hence we speak of so many milligramme hours.

With the emanation tube, as I have already indicated, on the other hand, there is a fall, and consequently we have not the same advantage as when we are using the salts themselves; but physicists can draw a chart, so that we know pretty well how the salts fall in a given number of hours or days, and by this means we can approximately give a dose equal to what would be given with the radium salts themselves.

The great advantage of the emanation tube is that it is less costly. In order to increase the area and so save expense, we dilute the salts with inert substances. Thus, if we dilute to

milligrammes of pure radium salts four times we increase the area in proportion, but, to get the same effect, we require to lengthen the exposure sufficiently long to get an equivalent result.

Many important and interesting theories might now be discussed, but it is impossible to enter into any one of them from the physical standpoint in such a demonstration as this: yet I must refer again to one point, and say a little about the three different kinds of rays already referred to.

The alpha may be actual helium atoms: at anyrate, they are exceedingly small bodies which come from radium, and travel, it is said, at the rate of 12,000 miles per second. The beta rays consist of smaller particles, travelling at the rate of about 60,000 miles per second. Now, both these rays can be diverted from their course by a magnetic field; the alpha to a much larger extent than the beta, and they have the peculiar property of making gases conductors of electricity, and this is called ionisation. The alpha rays, however, carry a small charge of positive electricity, whilst the beta rays carry a small negative charge. The gamma do not carry a charge, and are not deviated by a magnetic field. Ordinary gases do not become conductors of electricity, but after they have been subjected to radium emanations they do become so, and it is evident that something has been added to the gas which does not disappear at once, and this condition is spoken of as ionisation.

This "something" can be removed by passing the gas through a substance, such as cotton wool, or diverting it in an electric field. The something that made the gas a conductor is called an ion, and in numbers they are considered to be carrying positive and negative charges of electricity.

Radium can also produce changes in bodies that are non-conducting, such as di-electric fluids. Fluids that conduct electricity are called electrolytes, and you know from your studies in chemistry and physics that if a current be passed through some water to which common salt has been added, the metal will pass to the negative pole and the acid to the positive pole. The atoms, therefore, in the solution undergo a certain movement, which is only to be noted at the poles and not between. When the current is acting the molecules are shaken up into atoms, it may be by collision, and at this

moment the electric charges peculiar to them appear. The electrically charged atoms are called anions, and they go to the positive pole. The negative or cathode ones are termed cations at the suggestion of Faraday. The results of research in the physical laboratories for years back have suggested a new theory for electricity, viz., that it may be considered as matter, infinitely smaller than the atoms of hydrogen, and these electric atoms are called electrons.

The fact, therefore, that the continuous current can be utilised to carry the ions through the tissues of the body has led to the practice of what is called ionic medication. Thus we can have the ions of copper, mercury, zinc, morphia, atropine, adrenaline, &c., and other agents introduced for therapeutic purposes to a local part of the body without the drug passing through the alimentary canal at all.

Metallic agents, alkaloids, and hydrogen have a positive charge, whilst the acids have a negative. The technique is comparatively simple, and there can be no doubt that this method of application has proved of great use in many affections. A further study of the results will no doubt improve the methods and confer greater benefit on mankind in the future. The apparatus can be seen in the Electrical Department, and the methods demonstrated.

Further, when you are visiting the Department, I wish you also to pay particular attention to the apparatus for the production of what is known as static electricity. Of late, this has become more and more studied, and lately the patients have derived great benefit by the application of this agent in severe nervous conditions, such as sciatica or neuritis generally. You will see one of the largest machines in existence, made for us specially in his workshop by the late Lord Blythswood, who took a very great interest in the Electrical Department and the hospital generally, and was always willing to place anything in his famous laboratory at the disposal of any one in the hospital who was going in for research.

When we look back upon the last twenty-five years and realise the small number of cases, comparatively speaking, which attended the Electrical Department yearly, and think of the instruments at our disposal, and compare these with the thousands of cases which are passing through the Electrical

Department every year, and the great modern installation, we can get an idea of the advancement which has been made, not only by way of efficiency, but also of the large number of affections in which electricity, or the forces I have referred to, are employed: owing to research the number is ever increasing.

During the past twenty-five years thousands of attendances have been recorded in the Journals of the Electrical Departments. Take, for example, what has been done in the way of diagnosis only apart from the examination by means of the fluorescent screen; over eight thousand *x-ray* photographs were taken last year, and in most cases two or three plates were required for each case.

Let me point out one thing to you in connection with the naval and army services during this war. It is a common thing to take between fifty and one hundred *x-ray* photographs when a hospital train arrives, and the patients which come to the Glasgow Royal Infirmary have been admitted. These photographs are wanted immediately, and frequently the names of over fifty patients have been sent down in one afternoon.

Further, as showing the great benefits which our men receive from this Department, let me also point out that if a patient be too ill to be photographed in the Department, arrangements have been made for taking the photograph at the bedside. Most cases, however, can be taken to the Department, for the simple reason that owing to the development of the work—and thanks largely to improvements by the staff of the Electrical Department—the patient can be safely and gently lifted on to a trolley from the bed, when he is taken to the hoist. From any part of the hospital the patient arrives in the Department without the slightest chance of jar or discomfort. The top of the trolley is simply the ordinary ambulance stretcher, and the *x-ray* table has no top. The patient is therefore lifted on to the top of the apparatus, with suitable arrangements to support the stretcher, and the canvas of the latter becomes the top of the table. The *x-ray* tube is moved from below, and arrangements have been made by which every part of the body can be inspected from the head to the foot. When the part which is to be photographed is found—it may be for a fracture, bullet shot, or a foreign body—then the photograph can be taken instantly, and, if necessary, in the

fraction of a second. The patient is removed in the same way to his bed, and it is impossible to over-estimate what all this means in efficiency combined with the least possible discomfort to the patient. In all cases, whether from the Services or not, the object of the staff has been to give no shock where it is possible to the patient, to do everything that can be done to ensure satisfactory and efficient work, and where time is an element of importance to utilise all the more recent research work for the reduction of the time of the exposure of the photographic plate.

It would be quite impossible for me even to name the large number of affections in which diagnosis may be aided by x -rays. To some of them I have already referred, but a glance at any of the recent text-books will soon show the student how much is being done, and how much there is yet need for research.

Let me say, however, a word about the question which is ever present in our minds, and which relates to the possibility of helping those who are struck down with recurrent tumours, such as sarcoma or carcinoma.

Let me say, in the first place, that every one who uses these forces should keep an open mind. There are some who think more of x -rays than radium, and there are others who think less of x -rays and more of radium. The fact is, these agents are complementary to each other, and failure may be the result of treatment of a patient with x -rays alone, while success may follow treatment with radium. The conditions are sometimes reversed. A great deal depends upon the operator, his skill in applying the agent and his personal experience.

In a place like the Royal Infirmary one has to try all the different therapeutic agents, and one's experience in this hospital must differ from that of the operators who are working in radium institutes, and who have had no experience with any other agent. The same applies to those who have had experience of the treatment of patients by means of x -rays, but have had no opportunity of studying the therapeutics of radium.

But coming to the questions that have been raised above, let me say at once that there can be no doubt whatever that we have distinct evidence of excellent results in many cases of superficial epithelioma and sarcoma. I might put the case more strongly, but do not wish in any way to exaggerate. I have many cases

on my list where the diagnosis of epithelioma has been made, not only clinically but by microscopic examination, which have recovered after treatment and that for a period of years. That life has been prolonged in many cases is undoubted, and amelioration from the sufferings has been in many instances proved beyond all doubt.

When we come to deep-seated malignant disease we are bound to confess that we have not yet been able to say that great progress has been made, if we except the region of the uterus. In this connection we must always remember that at the present moment all surgeons agree that where the removal of the disease can be done surgically it should be done at once; and until we have more experience, and, in fact, while we are in the experimental stage, we never let the patient lose the chance of surgical aid.

I would here point out to you that, notwithstanding all the skill of the great operators, there is always the possibility of invasion of the lymphatics for a considerable distance, it may be, say, through the chest, where the secondary disease cannot be got at by the surgeon. Many surgeons, therefore, by way of prevention of recurrences, introduce tubes of radium into the wound immediately after an operation, and give a sufficiently strong dose to destroy any small portion which the surgeon may have missed or which is beyond the reach of the knife.

In judging of the value of these agents, it should be pointed out that the stage which the growth has reached and the state of exhaustion may mean that success cannot be hoped for from the application of these agents, and the surgeon has to admit this. For this reason I have always classified cases of malignant disease under observation, whether treated by the *x*-rays or radium, into four classes:—

1. Those which have had treatment and there is no return of the affection.
2. Those cases in which the disease may return once or twice or oftener, but in which it is ultimately controlled.
3. Cases in which we can only hope for amelioration and prolongation of life.
4. Cases, which are too often sent to us, in which neither radium nor any other agent is of the least avail.

To treat classes of cases which the surgeon himself cannot treat, and in which there is no hope from medicine or surgery, is an unfair test.

I should now like to say something about the great necessity for further research, and perhaps I might first suggest for consideration the question—How do these forces act? Let me take a very simple illustration—How does it come about that if a few drops of hydrocyanic acid are dropped on a dog's tongue they will produce death and an equal quantity of water has not the same result?

Most of our rules for the administration of drugs depend, for the most part, upon empirical rules. When a drug is found to produce a certain effect upon certain tissues in the animal, by careful experiment we reach a stage in which we know how to make the remedy as constant as possible. In due time the dosage for a child or adult is fixed. The physiological and other effects are noted, and the drug is administered with a view to producing a known effect upon a certain organ or tissue, but we are no nearer an answer to the question—How does it act? Let us take another illustration of an application of a hot compress to the superficial part of the chest. We are not applying this to the lungs, and yet it has an effect upon the pulmonary circulation. You might say to me that this is caused by reflex action, but whether the application is made directly to the tissues or exerts an indirect reflex effect, the question still remains unanswered.

What happens when you send a patient in ill-health into the sunshine? How do the rays of sunlight affect the patient to such an extent that changes for the better occur, and almost immediately in many cases? A study of the forces I have been speaking about to-night from the physical standpoint is taking us, at least, a step further.

You are well aware, doubtless, that the intricate and delicate changes in the tissues which bring about many new products or conditions have been demonstrated satisfactorily within recent years. The process of phagocytosis is not the simple one of the white corpuscles attacking the malignant germs. We know quite well that in many instances new chemical conditions or ferments bring about a condition which enables the living organic forces within the body to destroy and cast out the

enemy. Here let me point out to you that chemistry itself will never solve the problem, because the whole study of chemistry of late has shown that the physical condition is just as important to obtain certain results as the chemical. In the preparation of steel, as is well known, if the molten metal be allowed to cool slowly, and if a small portion of it be taken out and cooled quickly, the result will be to give us a steel, on the one hand, so hard and, on the other, a steel so soft that the latter can be cut by the former just as a diamond cuts glass; hence the necessity to keep in mind the conditions which are now so commonly spoken about in every branch of science as physico-chemistry.

Doubtless, therefore, we have much to learn in every branch of medical science, but that these electrons, ions, and other forces generally to which I have been referring to bring about some active change or changes within the tissues themselves cannot be doubted, and all the results so far obtained have pointed in the same direction.

If I have been successful to-night it must be evident to all present that there never was a more promising time for research than the present, and I would strongly urge every one of you as soon as possible to take up, in your leisure time, some branch in which you are interested. Your teachers are always able to help you and to suggest a subject for a thesis. The habit of research is easily acquired, and the change of mental conditions becomes a source of great pleasure and interest even after a hard day's routine work. The change of thought becomes actually a rest. It should be the aim of every student of medicine to leave the science richer than he found it, however little the results may appear to be.

I have already referred to the benefits which science has conferred upon those who have suffered from the war, but there is another and a very grave aspect which is deserving of your consideration. I have already said something about malignant disease, and many other serious conditions might also be added; but a temporary paralysis has overcome workers in Europe. I say temporary, because, however long the war may last, research must be resumed as soon as possible. We are already considering what is to be done when peace comes in many departments of public life, and the thoughts of scientific men

should now be turning to the great question of resumption of research work and organisation. To emphasise this view, let me point out to you, that when war broke out the whole medical profession throughout the whole civilised world was organised as one great army of workers having the same ends in view. International congresses showed that rivals only existed to the extent of each nation trying to be first in the work. It is not saying too much to add that in the year 1914 the medical profession had reached its greatest stage in organisation and the solution of scientific problems. In a day, as a result of the international jealousy, greed, and ambition of those who brought on this war, the work in thousands of our laboratories was arrested, and the objects of this great army—which were the prevention of disease, the amelioration of suffering, and the prolongation of life—were stopped. In addition, therefore, to the horrors which have followed, and which will follow this war in Europe and the East, we are presented with the sad thought that the great work of men who are striving to help mankind from suffering due to affections which destroy more lives than all wars has been paralysed. For a time America was able to do a great deal while the work on this side of the Atlantic and in Europe was arrested, but now it would appear as if those engaged in research on the other side of the Atlantic would also largely have to abandon this great work to take their share in the work of the battlefield.

When I undertook to give this demonstration I said it would be one of an informal kind, and I am quite aware that in the time at my disposal I can only give you something of an introduction to the work being done in this hospital and the new Electrical Institute which has been established. I need hardly say, however, while you may not be able to see much to-night, that you will always be welcome, and those of you who are interested in the work may visit the Electrical Institute from time to time, and so gain further knowledge.

I am delighted to be able to say that it has been definitely announced that a Lectureship in this new branch of science is to be instituted in the Glasgow University, and that in itself is an indication of the trend of events which is of the greatest significance.

THE CAUSES OF STILL-BIRTH.*

By J. M. MUNRO KERR, M.D.,

Professor of Obstetrics and Gynæcology, Glasgow University ; Obstetric Surgeon,
Maternity Hospital ; Gynæcological Surgeon, Royal Infirmary, Glasgow :
Hon. Fellow, American Gynæcological Association.

As the time at my disposal is so short and the subject so extensive, I propose to read this communication which I have condensed to the lowest possible limit. As you will observe, I speak quite frankly about causes—the time for keeping secret about many matters that are here discussed has passed, and it is a great blessing that it has passed, for now we can all work together and effect many improvements in the present unsatisfactory condition of affairs.

Professor Cameron and Dr. Haig Ferguson have indicated the work and scope of a modern maternity hospital and its relation to the general practitioner, maternity centres, infant clinics, &c. The duty that falls upon me is to bring to your notice the question of still-births.

I do not wish to burden my address with statistics, but I must give a few figures :—The number of still-births in Glasgow in 1914 was 1,336 : in 1915, 1,178.

Now still-births arise in two ways—(a) as a result of diseases and complications of pregnancy : (b) as the result of complications during parturition.

The lay public have in the past imagined that this last factor is the more important, but, as a matter of fact, diseases and complications of pregnancy account for infinitely more deaths. Let me illustrate this. In the Royal Glasgow Maternity and Women's Hospital in the Indoor Department during the last three months (December, 1916, to February, 1917, inclusive)

* Read at the Conference of the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy, held in Glasgow, 13th and 14th March, 1917.

there were 312 deliveries. Of these cases there were 56 children born dead. Of these dead children, 63 per cent died as a result of diseases and complications of pregnancy and 42 per cent as a result of complication of labour.

But that is not the whole story—a large number of children die in the first few days after birth. They are, of course, not still-births, but they are children lost to the State. Now, examining the results of the Hospital for the same three months, you will find this—of the children born alive 23 died within the first ten days, and of these 78 per cent died as a result of diseases and complications of pregnancy, and only 22 per cent as a result of complication during birth.

This, I am sure, you must admit is a very sad and unsatisfactory state of matters, but it is particularly sad and unsatisfactory because to a very large extent indeed it need not occur. To a very large extent (I am not prepared to state exact figures, but it is certainly not less than 80 per cent) this enormous infant death toll is preventable, and what is equally true, a very large proportion of the associated maternal deaths is preventable.

DISEASES AND COMPLICATIONS OF PREGNANCY.

Now, what are the causes for this enormous wastage of infant lives, and mark you I am not dealing with miscarriages (in that same period of three months there were sixty miscarriages dealt with).

1. There is a group of diseases which we obstetricians term at the present time “toxæmias of pregnancy.” In this group we include such conditions as eclampsia or convulsions, albumen in the urine, pernicious vomiting, jaundice, and a number of other complications to which I need not refer.

All these complications begin very insidiously and probably at a very early stage of pregnancy: personally, I believe they commence in the early weeks of pregnancy. They result from poisons generated in the system of the pregnant woman: and they are cumulative poisons, because, unless means are taken by

suitable diet and medicines, &c., to stop the manufacture and get rid of the poisons, they are stored up in the tissues, and gradually the pregnant woman becomes more and more poisoned.

Now, you will naturally ask in what percentage of cases are these poisons the cause of still-births. Well, taking the three months I have already referred to, out of the 79 cases of still-births and deaths of infants shortly after birth, I find that 44, viz., 56 per cent, can definitely be attributed to these poisons of pregnancy. I have no doubt the percentage is decidedly higher, but I cannot definitely say how much higher, and so I leave it at that figure; and it is bad enough.

But, bad as the position is, it is not hopeless, because—and this I wish to state definitely—the majority of these grave complications of pregnancy, these toxæmias, can be prevented if pregnant women are carefully looked after and suitably treated during the pregnancy. Let me illustrate this by taking one particular complication, viz., eclampsia or convulsions during pregnancy.

Taking the statistics of the Glasgow Maternity Hospital for the last five years, there were 339 cases of this complication; of these, 87 mothers and 225 infants died.

Now, if you take at the other extreme patients of the comfortable and wealthy classes who can afford to have the very best medical attendance—skilled obstetric specialists and very careful and able practitioners—you find that eclampsia or convulsions very seldom occurs. Here are my own figures:—During the twenty odd years that I have been engaged in obstetric practice, of the hundreds of cases that have been under my care and where the patients came to me within five months of the commencement of their pregnancy (I am, of course, not speaking of the cases seen in consultation), I have had only one case of convulsions—I have had many cases where I have had to treat the patient for minor disturbances, which, if allowed to run uncontrolled, would have certainly developed into eclampsia; but I have had only one case of convulsions. Now I am perfectly certain that my colleagues here on this platform, other obstetric specialists, and careful medical practitioners, who have the care of their patients from the early months of

pregnancy, could give you just as satisfactory results. I spoke to one the other day, who said she had never had a case of eclamptic convulsions amongst her own private patients. The position, then, is this, that as you pass down the social scale from the leisured and wealthy class to the poor and destitute, eclampsia or convulsions is more frequently encountered, and to a very large extent the same applies to the other toxæmias of pregnancy. We may sum up the matter in this way—the frequency and seriousness of the toxæmias of pregnancy, with their high maternal and child death-rates, are in inverse ratio to the care and attention given to patients during pregnancy. No one can question this—it is an established fact.

But the prospect is full of hope; already we can see the dawn of a brighter day. Nothing greater has been secured for this country in our generation; I refer only of course to the results in the peaceful struggle for securing a healthier world, than the welding together of the medical and social agencies concerned with the care of the prospective mother, mother in child-bed, and young infant, and this has taken place in the last year or two and was consummated in the Notification of Births Act.

2. *Disease of the womb and other female organs of reproduction.*—This is not a matter I can discuss here; it entirely concerns medical practitioners and gynæcological specialists. We are ever trying to reduce to a minimum this causative factor of still-births. It is responsible for many of the complications of pregnancy and parturition, and it is a very important cause of miscarriages.

But here, again, we are full of hopefulness, for we know that most of the disturbances coming under this group can be lessened if parturition is carefully managed, and especially if septic infection is prevented.

3. *Syphilis.*—The importance of this dreadful poison as a cause of infant death, I cannot express in figures. My senior University assistant—Dr. Louise M'Iroy—was engaged in this very subject when the war broke out. She showed me a few

figures—they were very terrible, but as the investigation had only begun, I do not propose to mention them: as a matter of fact, I cannot recollect them exactly. Nothing is more fatal to a case than to overstate it, and so at the present time I would only say this, that a very large number of the still-births and deaths in the early days of infancy result from syphilis. Fortunately, the effects of the other venereal diseases to mother and infant during pregnancy, labour, and the days following labour—what we call the puerperium—can be combated, and have been largely shorn of their terrors. Take, for example, ophthalmia neonatorum, now a notifiable disease, which, until recently, destroyed the eyesight of thousands of children.

When I was referring to the toxæmias of pregnancy I stated that they were more frequent the lower down the social scale one passed. To a certain extent this, too, is true in regard to the syphilitic poison, but, unfortunately, syphilis is present in all classes of society. On several occasions I have attended women, high in the social scale, who had everything the world could give them, but who time and again had miscarriages or dead-born children, and that in spite of the most thorough antisymphilitic treatment. Such cases are not now very common, for antisymphilitic treatment gives more satisfactory results.

But it is a terrible story when you come down to the poor and destitute—you know these nomads the mis-called gypsies—these tinkers that one sees wandering about the country. Well, Dr. Watson some years ago examined a number of this class, and he found that every one of these individuals was syphilitic—men, women, and children—not one did he find free of this taint.

You see from the press that this subject—the dealing with syphilis and kindred ailments—is engaging the attention of the medical profession, sociologists, and legislators. Sir Francis Champneys dealt with this very subject last night. I am sure many of you listened with interest to his most admirable discourse. It is a most difficult problem—the most difficult the public health authorities have to face—for to them this problem should be entrusted. Think of what they have done. They have practically stamped out typhus fever; enteric is much less

prevalent; consumption some day, I believe, will be literally stamped out; and now, with the powers they have under the Notification of Births Act, they will in time, with your assistance and the assistance of obstetricians, relieve the expectant mother of many of the complications of pregnancy, and prevent many of the disasters of child-birth and early infancy. But who can say how they are to deal with the terrible scourge of syphilis and associated ailments?

Through notification, typhus, enteric, consumption, ophthalmia neonatorum, and other infectious diseases have been reduced, and through notification, or, as I prefer to call it, "intimation" of pregnancy on the lines I indicated some years ago, where secrecy will be respected and the feeling of modesty of the expectant mother will be respected, on these lines I feel convinced the complications of pregnancy will be immensely diminished and the majority of the serious complications of parturition removed. Some believe this intimation of pregnancy will not be necessary. I do not believe that—the people of the highways and hedges must be compelled to come in.

But with all these infectious diseases and with pregnancy, the condition cannot be concealed. Sooner or later the individual suffering from enteric and typhus will have to seek advice, and the expectant mother must go into labour. But the poor syphilitics or otherwise affected—for amongst many of them there must be terrible mental as well as bodily suffering—can go on, and do go on, concealing the disease, a danger to themselves and a danger to the community.

4. *Alcohol*.—If one feels very strongly about a controversial subject, such as the use of alcohol, it is very difficult to take up a quiet and absolutely balanced view regarding the effect of this substance. You see I do not call it a poison, for it is only a poison if taken in excess, just as, although not to the same extent, many substances that we employ as foods are poisons if taken in excess.

It is particularly unfortunate when scientific medical men—some of them distinguished medical men—overstate their case, and drag in pseudo-scientific and unconfirmed observations in support of their views.

Obviously it is not possible to enter into details regarding this all-important aspect of the subject. I shall content myself by simply making the following statements:—

1. Confirmed female inebriates who are allowed to continue their drinking habits during pregnancy are prone to have miscarriages, still-births, delicate and mentally defective children.

2. It has been shown by Sullivan that if these inebriates are prevented from obtaining alcohol during pregnancy, living and healthy children are frequently secured.

3. There is distinct evidence that excessive use of alcohol by the mother during pregnancy, even although she cannot be termed a drunkard, has an injurious effect on the child.

4. There is no evidence that alcohol ever benefits a woman during pregnancy, unless it is used under medical direction for some specific reason.

5. There is absolutely no evidence that small quantities of alcohol used during pregnancy have any injurious effect upon mother or child.

My conclusion is, and I am sure my distinguished colleagues on the platform support me, that we ask all pregnant women to abstain from the use of alcohol during pregnancy, unless the doctor in attendance considers it necessary to prescribe a small quantity as a medicine.

Did time permit, it would be possible for me to refer to other conditions such as accidents, overstrain (mental and bodily), which injuriously affect the expectant mother and child. Fortunately, however, the omitted causes are relatively of little importance, for the four I have mentioned—toxæmias of pregnancy, disease of the uterus, syphilis, and alcohol—account for more than 80 per cent of the infant deaths. Nearly all of these deaths are preventable; every obstetric surgeon is agreed upon that. Now that all interested lay agencies, public health authorities, maternity institutions, obstetricians, medical practitioners, nurses and health visitors, have been united by the Notification of Births Act, we should see in a very short time indeed a marked improvement. But let me give this warning. This cutting down of the mortality amongst the preventable deaths to the vanishing point will be difficult—

very difficult. You will easily reduce the mortality by 20 per cent or 30 per cent or 50 per cent with the co-operative action between the different agencies already referred to. We must not forget, however, that there is a large public to deal with, and this public may be divided into two classes—those who are willing to co-operate and those who are not. Many individuals of the latter body may be educated to co-operate, but there will always remain a large body ignorant, selfish, indifferent, indolent—that body you will have to compel to co-operate with you. Of that I am convinced, and you will have to make arrangements for just such compulsion.

STILL-BIRTHS—THE RESULTS OF DIFFICULTIES DURING LABOUR.

I have left myself very little time to consider this second group of cases, but there is just time for me to indicate how we obstetricians can improve matters if you and the public health authorities, &c., will give us your assistance.

During the three months in the Indoor Department of the Glasgow Maternity Hospital—from December, 1916, to February, 1917, inclusive—the same three months already referred to, there were 25 children who died simply and solely as a result of difficulties and complications of labour. It would be quite out of place to enumerate these difficulties and complications, but they may be divided into two groups—(1) Complications over which we have no control; (2) complications which, if recognised and sent to the hospital early, could have been dealt with and the children saved.

Examining these cases, I find that 7 belonged to the first and 14 to the second. I believe one really could have stated it that 5 belonged to the first and 16 to the second; but I do not wish to exaggerate—I am anxious rather to understate my case. This reduced to percentages gives the following:—More than 66 per cent of children that died during labour might be saved if the mothers were carefully examined, supervised, and treated during the later weeks of pregnancy and labour. Some may say these figures are very small, but time and again I have gone over different months, different years of the Maternity

Hospital's great work, with its thousands of cases per annum, and the results are similar. I do not say the figures are always absolutely as I have given them for the past few months; they are sometimes a little higher, sometimes a little lower, but the variations are negligible.

Do you see, then, what can be done? If the nation will insist that all women in pregnancy and labour are placed under favourable conditions and suitable supervision, we obstetricians and doctors and nurses will reduce the number of still-births, the results of the diseases of pregnancy, by somewhere about 90 per cent, and the deaths occurring during parturition by 65 per cent at least, and in the process of doing that we will save many hundreds—yes, thousands of mothers.



Obituary.

ON SERVICE.

CAPTAIN THOMAS M'COSH, M.C., M.B., CH.B. GLASG.,
ROYAL ARMY MEDICAL CORPS.

WE regret to announce the death of Captain Thomas M'Cosh, M.C., R.A.M.C., which occurred on 16th April as the result of an accident while on active service. Captain M'Cosh, who was in his thirty-fifth year, was the third son of the late Thomas M'Cosh, Flores, Burnside, Rutherglen. He was educated at the High School, Glasgow, and studied medicine at Glasgow University, where he took the degrees of M.B., Ch.B. in 1905. He afterwards held the appointments of house surgeon and house physician in the Western Infirmary, and, prior to the war, was in practice at Woodford Green, Essex. He received his commission in the R.A.M.C. in May, 1915, being attached to the Welsh Regiment. He is survived by a widow and one son.

SURGEON-GENERAL SIR WILLIAM TAYLOR, K.C.B., M.D. GLASG.,
LATE DIRECTOR-GENERAL ARMY MEDICAL SERVICE.

WE regret to announce the death of Surgeon-General Sir William Taylor, K.C.B., late Director-General, Army Medical Service, which took place at Windsor on the 10th April. Sir William Taylor was the third son of the late James Taylor of Etruria, Staffordshire, and of Moorfield, Ayrshire, where he was born in 1843. He received his early education at Carmichael, in the Upper Ward of Lanarkshire, whence he went to the University of Glasgow for the study of medicine, receiving its degrees of M.D. and C.M. in 1864. In the same year he obtained a commission as assistant surgeon in the Army Medical Department, and from 1865 to 1869 he served in Canada, where he took part in the operations against the Fenian raiders, and received the medal. In 1870, after his return to England, he

was gazetted to the Royal Artillery, and three years later he went to India, where in 1877 he took part in the Jowaki Afridi expedition, for which he received the medal. He left India in 1880 for a brief period of service in England, but returned in 1882, and in 1885 was appointed surgeon to Sir Frederick Roberts, then Commander-in-Chief in India. He served through the Burma campaign of 1885-86 on the staff of the Commander-in-Chief, and was mentioned in dispatches. In 1888 he served with the Hazara Expedition, and in 1888-89 he again served in the Burmese campaign. His Indian service terminated in 1893, when he was appointed to headquarters in London. In the following year he was appointed medico-military attaché to the Japanese Army during the Chino-Japanese war, and received the Japanese war medal at its close. He was principal medical officer of the Ashanti Expedition, 1895-96, the success of which was largely due to the sanitary and other measures which he instituted for the preservation of the health of the troops. His services were recognised by the bestowal upon him of the star granted for the campaign, and by his special promotion to the rank of surgeon-major-general. In 1896 he became professional assistant to the Director-General, and in 1898 he was appointed principal medical officer of the expedition to Khartoum, being present at the battle of Omdurman, and receiving the C.B., the medal, the Khedive's bronze star, and the Medjidie. From 1898 to 1901 he held the post of principal medical officer to the British Army in India, which he relinquished on his appointment as Director-General of the Army Medical Service in December, 1901. In that year he was gazetted honorary physician to the King, and in 1902 he received the K.C.B. Soon afterwards the University of Glasgow bestowed upon him the honorary degree of LL.D. He held the post of Director-General till December, 1904, when he retired after a three years' tenure of office, during which many measures of reform were effected, and the reorganisation of the Army Medical Corps was successfully carried out. From first to last he had served the army for forty years, and even after his retirement he continued to be interested in the medical service and to exert his influence in the direction of progress. He was a man of strong character and at the same time of winning personality, and he was universally popular in the Army Medical Service. Though his

advancing years had well earned him his retirement, he responded at once to the call of the present emergency, and had recently been serving as commandant of the British Red Cross Military Hospital at Englefield Green.

The funeral, which took place at Windsor Cemetery on 14th April, was attended, among others, by representatives of Prince and Princess Christian, and of the staff of nurses of the Princess Christian Military Hospital, and by Sir Alfred Keogh, G.C.B., Director-General A.M.S.; Sir William Babbie, V.C., K.C.M.G., D.M.S., War Office; Sir Launcelotte Gubbins, K.C.B., late Director-General, A.M.S.; Colonel Peterkin, D.D.M.S., London District; Sir John Furley, representing the British Red Cross Society; and the Mayor of Windsor.

WILLIAM FAULDS, M.D. GLASG.,
SHAWLANDS.

WE regret to announce the death of Dr. William Faulds, which occurred at his house in Shawlands on 16th March. Dr. Faulds, who studied medicine at the University of Glasgow, took its degrees of M.B., C.M. in 1874, and twelve years later he took the degree of M.D. He had an extensive connection in the district in which he practised, where he was esteemed and respected by all who knew him.

ARCHIBALD NICOL MONTGOMERY, M.D. GLASG.,
SANDYFORD.

WE regret to announce the death of Dr. A. N. Montgomery, which took place at his house in Gray Street, Sandyford, on 16th April. A student of the University of Glasgow, he took the degrees of M.B., C.M. in 1884, and that of M.D. in 1889. Settling in practice in Sandyford, he speedily acquired the confidence of a large circle of patients, by whom he was appreciated alike for his personal and his professional qualities. During the last few years his health had been failing, and his practice had been largely carried on by his younger brother, Mr. J. S. Montgomery.

CURRENT TOPICS.

UNIVERSITY OF GLASGOW: GRADUATION IN MEDICINE.—An extra graduation ceremony was held at the University on 6th April, when the degrees of M.B., Ch.B. were conferred upon thirty-five students, of whom six were women. Several of the graduands wore the uniform of the navy or the army. The degrees were conferred by Principal Sir Donald MacAlister, and the medical students were presented for graduation by Professor Bryce, Dean of the Faculty of Medicine.

At the close of the ceremony the Principal said that in the name of the Senate he offered to the graduates their congratulations on the successful completion of their professional course. To those eligible for commissions in the navy and army, all of whom had responded to the country's call for medical service with the forces, he expressed in particular the Senate's deep satisfaction with their choice and their best wishes for their welfare. The need for medical men and women at home and abroad had never been so urgent as now. The demand far exceeded the supply, and the special responsibilities on those who were qualified to practise medicine had therefore never been so heavy. The Senate sent them forth to take their share of those with a full sense of their responsibility in declaring them fit to undertake them. They trusted them to make good their confidence. They trusted them also, according to the measure of their powers, to advance the repute of their profession and the ancient fame of their University. "May it have cause," he said, "to be proud of you, as I have no doubt you are proud of it; and may it have cause to remember with gratification this Good Friday ceremony at which it conferred upon you its degrees and its blessing."

The following is a list of the graduates in medicine:—

BACHELORS OF MEDICINE AND BACHELORS OF SURGERY
(M.B., CH.B.)

John William Waddell Baillie.
Monindra Nath Bhattacharjee.
Archibald M'Allister Blackwood.
Mabel Nellie Blake.
John MacDougall Clark.
Andrew Dick.
Samuel Norman Dykes.
Lewis Livingstone Fotheringham.
Margaret Hutchison Glen.
William Hadden Gordon, M.A.
David Heard.
Frederick William Hebblethwaite.
Henry Fielden Hollis.
James Robert Riddell Holms.
William Hogarth Kerr, M.A.
James Liddell.
Frederick Colquhoun Logan.
Kenneth M'Alpine.

Arthur Daniel Clark M'Gowan.
May Elizabeth MacIvor.
Donald William Morison MacKenzie.
William Duff Miller.
William Harold Palmer.
James Walker Patterson.
May Isabella Turner Reid.
Angus M'Alpine Scott.
Henry Buchan Sergeant.
Andrew Wauchope Smith.
Clarence Lorraine Somerville.
Douglas Stuart Stevenson.
Pat Adam Stewart.
Marion Watson.
Mary MacLean Weir, M.A.
Robert Wiggins.
John Thomas Wylie.

In the final examination Mr. Douglas Stuart Stevenson passed with distinction in Medicine and Clinical Medicine, and also in Surgery and Clinical Surgery: and Messrs. James Robert Riddell Holms and James Liddell passed with distinction in Midwifery.

TRIPLE QUALIFICATION PASSES.—The examinations of the Board of the Royal College of Physicians of Edinburgh, Royal College of Surgeons of Edinburgh, and Royal Faculty of Physicians and Surgeons of Glasgow, were concluded at Edinburgh on 6th April. The following candidates, having passed the final examination, were admitted L.R.C.P.E., L.R.C.S.E., L.R.F.P. & S.G.:—W. A. Mein, Bombay; J. Adami, Malta; F. J. Jack, Fife; A. E. Elliott, Cheshire; and W. M'Elroy, Ireland. *Medicine*—J. Boyd and S. A. Faulkner. *Surgery*—W. U. D. Longford, Phoebe Foott, F. M. H. Sanderson, and J. B. Minford. *Midwifery*—W. U. D. Longford, H. G. Smith, F. M. H. Sanderson, J. L. West, and J. B. Minford. *Medical Jurisprudence*—H. Wildeboer, D. C. M'Nair, L. W. Nott, Eliza Jean Stuart, M. A. K. Mofreh, E. E. Bronstorff, and J. H. Brown.

At the examinations concluded on 21st April at Glasgow, the following candidates, having passed the final examination, were admitted L.R.C.P.E., L.R.C.S.E., and L.R.F.P. & S.G.:—Mary

Gray Jones, R. Austin, S. S. Barton, R. L. Bellamy, A. B. MacDougall, A. B. Black, W. Brown, N. S. Bruce, L. W. Hughes, E. G. Jones, R. G. Battersby, J. J. Mulvey, D. A. Jayasinghe, R. N. Burton.

GLASGOW DENTAL PASSES.—At the recent examinations for the diploma in dental surgery of the Royal Faculty of Physicians and Surgeons, Glasgow, the following candidates passed the final examination and were admitted licentiates in dental surgery:—Sidney John Ancill, Thomas Black, Albert Ernest Lillierap, Norman McGregor, George Middleton Macpherson, William Alexander Stewart, Thomas Walters, Christina Mary Wands.

APPOINTMENTS.—The following appointments have recently been made:—

T. J. Kirk, M.B., Ch.B.Glasg. (1912), to be District Medical Officer of the Stockton Union.

Archibald Young, M.B., C.M.Glasg. (1895), F.R.F.P.S.G., to be Visiting Surgeon to the Western Infirmary, Glasgow.

Royal Navy (29th March): Temporary Surgeon W. G. Boyd, M.B., Ch.B.Glasg. (1915), to *Vivid*.

Royal Army Medical Corps (17th March): To be temporary Lieutenants—E. C. Burnett, M.B., Ch.B.Glasg. (1901); W. Templeton, M.B., Ch.B.Glasg. (1904); J. M. H. Caldwell, M.B., Ch.B.Glasg. (1906).

24th March: Temporary Lieutenants to be temporary Captains—W. S. Melville, M.B., Ch.B.Glasg. (1907); P. A. McCallum, M.B., Ch.B.Glasg. (1913); D. C. Suttie, M.C., M.B., Ch.B.Glasg. (1900). To be temporary Captain—M. M. McRae, M.B., Ch.B.Glasg. (1908). To be temporary Lieutenants—G. T. Bogle, M.B., Ch.B.Glasg. (1909); J. S. Clark, M.B., Ch.B.Glasg. (1906).

31st March: To be temporary Lieutenants—C. H. Wagner, M.B., Ch.B.Glasg. (1909); J. B. McDougall, M.B., Ch.B.Glasg. (1914); D. Young, M.B., Ch.B.Glasg. (1910).

12th April: Temporary Lieutenants to be temporary Captains—P. Figdor, M.B., Ch.B.Glasg. (1913); C. Cairnie, M.B., C.M.Glasg. (1897). To be temporary Lieutenants—J. T. Brown,

M.B., Ch.B.Glasg. (1911); J. P. McVey, M.B., Ch.B.Glasg. (1911); W. B. Jack, M.D.Glasg. (M.B., 1905).

COMPULSORY MEDICAL SERVICE.—The registered medical practitioners in Glasgow and the West of Scotland met on 27th March under the auspices of the Royal Faculty of Physicians and Surgeons of Glasgow, and discussed several questions arising out of the needs of the Army for more doctors. Dr. Ebenezer Duncan, president of the Faculty, was in the chair, and the meeting, which was held in the Faculty Hall, was largely attended. The principal points suggested for consideration were (1) whether the whole nation should be compulsorily mobilised immediately; (2) whether the medical profession should be mobilised in advance of the rest of the community. The meeting unanimously affirmed that the whole nation should be compulsorily mobilised, but expressed the opinion that to mobilise the medical profession in advance of the rest of the community would be unjust alike to the profession and the community.

The Chairman, in explaining why the meeting had been called, stated that the several central medical committees who were the administrative bodies under the Military Acts had decided that the voluntary system of providing medical men for commissions in the Army had reached the limit to which it could be pushed. According to the advice of the secretaries of the local committees all over Scotland, the districts had been almost "bled white" of medical men, and the wants of the civil population could not now be met without some method of substitution. They were of opinion that that substitution should be compulsory, and that the exercise of compulsion should be in the hands of the central authorities. These facts had been represented to the Government through the Director-General of National Service, who at present was considering what he would recommend. It must be decided in Parliament by legislation. Personally he thought it would have been the right thing for these central bodies in all parts of the kingdom before going to the Director-General to put the subject before the profession. They had failed to do that, and consequently the Faculty had summoned the meeting. He agreed with the Central Medical Committee for Scotland that the voluntary

system could no longer provide the medical officers required for the Army. He thought also the time was approaching when the whole of the community would have to be compulsorily mobilised. He knew of no argument referring to the medical profession which did not refer equally to any other profession. The voluntary system, which was being tried, was almost certain to fail. It was an unjust system, and if it was true that young men perfectly fit for the Army were doing work at home that could be done by older men or by women it was high time that the Government took its courage in both hands and instituted compulsion for the nation. The medical profession had shown that they were willing to suffer—and in proportion to their numbers they had suffered—as much as any other profession.

Dr. McGregor Robertson expressed the opinion that the first duty of the meeting should be to make a declaration of its patriotism and loyalty. He accordingly moved that the meeting “is of opinion that the time has come when the whole nation should be mobilised for the successful and rapid conclusion of the war, so that all fit persons shall be liable to be called upon by the Government to render such service in naval, military, and civil departments as they may be deemed suitable for, due regard being paid to age, training, and circumstances.”

Dr. John Russell seconded, and the motion was unanimously adopted.

The next question, the Chairman stated, for the consideration of the meeting was—Supposing the Government does not agree to the immediate and compulsory mobilisation of the whole nation, does the meeting approve of the medical profession being so mobilised in advance of the rest of the community?

Dr. James Wylie moved a resolution to that effect, remarking that there was a large number of young men sheltering in dispensaries and other places, whose work could be done by older men.

Dr. Newman seconded the motion.

Dr. Charles Robertson said he understood that the Government were to appoint a Committee, who would have liberty to do as it chose with the members of the profession. So far the work had been in the hands of a Central Committee, who, so far as he remembered, was self-appointed. They would have to

be very chary as to the people whom they recommended the Government to put on the Committee.

Sir David M'Vail took exception to the motion. What had the medical profession to do with "being in advance of the rest of the community"? They had already approved of the compulsory mobilisation of the whole nation. They had nothing to do with "the rest." The medical profession were willing to act as the Government might require. He moved a direct negative.

The Chairman explained that the committee of the Faculty, in drawing up the question under consideration, had had in view the fact that the Central Committees that had authority at present for the administration of medical affairs in connection with the Army had gone to the Director-General and advised him that the medical profession should now be mobilised in advance of other professions. If the meeting objected they were quite entitled to do so.

Dr. Charles Robertson seconded Sir David M'Vail's amendment.

Dr. M'Gregor Robertson said the question was whether the medical profession were prepared to be compelled to serve the State in any capacity that the Government might determine, whether the rest of the community were asked compulsorily to serve or not. Why should they be compelled to serve unless in association with the rest of the nation? Were there not other sections of the community whose services for the immediate prosecution of the war were as valuable as those of the medical profession? They were prepared to be compulsorily mobilised if need be, but the rest of the community must also be compulsorily mobilised.

A vote between Dr. Wylie's motion and Sir David M'Vail's amendment resulted in a large majority for the direct negative.

Dr. M'Gregor Robertson thereupon moved that the meeting, "having expressed its opinion that the whole nation should without delay be organised for war, is nevertheless strongly of opinion that to compulsorily mobilise the medical profession in advance of the rest of the community would be unjust alike to the profession and the community at large."

Dr. J. F. Lambie seconded, and the motion was unanimously carried.

A long discussion ensued in regard to the composition of the Central Committee, which would be entrusted with the redistribution of medical men in the event of the profession being mobilised.

The Chairman stated that the present Central Medical Service Emergency Committee for Scotland was composed of representatives of the Colleges, the Universities, the British Medical Association, the Insurance Committee, the Medical Guild, and the Faculty of Advocates, together with two co-opted members—Professor Muir and Professor T. K. Monro. That committee had been recognised as a statutory body by the Army Council, and from personal knowledge he could say that no body could have devoted more careful attention to the interests of practitioners who had come before them.

Dr. Charles Robertson moved "That the committee to be appointed by the Government in the event of the mobilisation of the medical profession shall supersede the Scottish Medical Service Emergency Committee, and shall contain a majority of medical practitioners in active general practice."

Dr. Murray Young seconded.

Professor Bryce held that the Central Committee acted with absolute impartiality, and that it worked through the local committees, who were composed of general practitioners. He did not think the Central Emergency Committee wanted to put itself forward in this matter. It was a question entirely for the Government.

Dr. J. C. M'Vail said that it was not the case that the committee were self-appointed. It originated with the British Medical Association.

Dr. John Ritchie moved, and Dr. William Muir seconded, that the committee be maintained in its present state.

On a vote, the motion of Dr. Charles Robertson was carried by 45 votes to 42.

TREATMENT OF BRITISH PRISONERS IN GERMANY.—The following resolution with regard to the treatment of British prisoners of war in internment camps in Prussia was adopted some time ago by the following medical authorities in Scotland:—The Medical Faculty of the University of St. Andrews, the Medical Faculty of the University of Glasgow, the Medical Faculty of

the University of Aberdeen, the Medical Faculty of the University of Edinburgh, the Royal College of Surgeons, Edinburgh, the Royal Faculty of Physicians and Surgeons, Glasgow:—

“The Faculties of Medicine of the Scottish Universities, together with the presidents and councils of the Royal College of Surgeons of Edinburgh and of the Royal Faculty of Physicians and Surgeons of Glasgow, desire to record their condemnation and detestation of the neglect and inhumanity which characterised the conduct of certain members of the Prussian Medical Staff to whom the treatment of British prisoners of war was entrusted, especially in the internment camps at Wittenberg and Gardelegen, during outbreaks of typhus fever, which had been largely provoked by overcrowding, insufficient food, and entire absence of all sanitary measures. The facts as stated in the recent reports of a British Government Committee, which are based mainly on the testimony of officers of the Royal Army Medical Corps, themselves prisoners of war, are of such a nature as to bring indelible disgrace upon the medical men concerned, and upon the German Government, which remains ultimately responsible for the treatment meted out to prisoners of war. As members of a profession which has hitherto, in every quarter of the civilised world, been inaccessible to the shameful influences which make for barbarity in warfare, we are reluctantly forced to the conclusion that a spirit of gross inhumanity has not been absent from the Prussian Medical Service.”

ERSKINE HOSPITAL FOR LIMBLESS SAILORS AND SOLDIERS.—Our readers will be interested to learn that the gratifying results of the operations of the Hospital for Limbless Sailors and Soldiers at Erskine House have been such as to call for an extension of its premises. It was at first intended that the Hospital, which is now one of the most up-to-date of its kind in the country, should be devoted exclusively to Scottish sailors and soldiers who had lost their limbs. Such cases have fortunately not been so numerous as to require the full accommodation, and in response to representations made by the committee to the War Office the scope of the Hospital was extended so to make provision for limbless sailors and soldiers

from the northern counties of England. All the accommodation is now fully occupied. A large number of patients have already been treated, and of these a great many have been discharged satisfactorily fitted with artificial limbs.

At a recent meeting of the committee it was reported that the War Office authorities had requested them to consider the propriety of an extension of the Hospital for the purpose of accepting cases in course of preparation, in order, in the first instance, to relieve the primary hospitals, where such cases are at present sent, and, in the second place, because it was desirable from the surgical point of view that the surgeons who supervise the fitting of the limbs should also have the cases under their observation in the preparatory stages. The committee agreed to this request, and at present the erection of temporary pavilions to accommodate 200 preparatory cases is being pushed forward. It is expected that the Hospital will be formally inaugurated by Her Royal Highness the Princess Louise, Duchess of Argyll, patron of the Hospital, next month, when it is hoped that the new extension will also be ready for occupation. This ceremony would have been performed some time ago, but it was deferred on account of the indisposition of Her Royal Highness, who has all along taken the deepest practical interest in the Hospital.

The work at the Hospital includes not only the fitting of artificial limbs on the patients but the provision of workshops, where men may engage in preliminary training for various handicrafts and industries, including basketmaking, carpentry in its initial stages, hand-loom weaving, etc. The committee are also encouraging the men to take an interest in poultry farming, pig-rearing, and bee-keeping, and if other men are found desirous of taking an interest in occupations not already represented at the workshops, provision will be made for them also.

The Hospital has been visited by a number of military officers and others interested in the work carried on at Erskine, and all have expressed their highest appreciation of the manner in which the committee are meeting the needs of the patients in residence.

Lieutenant-General Sir Spencer Ewart, K.C.B., on the occasion of a recent visit to the Hospital, made the following report:—

"I have had great pleasure to-day as General Officer Commanding in Scotland in visiting the Scottish Hospital for Limbless Sailors and Soldiers, and have been greatly impressed by all I have seen. The Army owes a deep debt of gratitude to all those who have been instrumental in providing so generously and so thoroughly for the needs of our comrades who have had the misfortune to lose a limb during the war."

TREATMENT OF VENEREAL DISEASES.—The following circular has been issued by Mr. John T. Maxwell, secretary of the Local Government Board for Scotland:—

"I am directed by the Local Government Board for Scotland to direct the attention of the Local Authority to the following amendment of the Defence of the Realm (Consolidation) Regulations, 1914, which was made by an Order in Council, dated 24th January, 1917, viz.:—The following Regulation shall be inserted after Regulation 16:—'16a. The Local Government Board may, during the continuance of the war, authorise any local authority or person to purchase or distribute any drug, medicine, or medicinal preparation specially designed for the treatment of venereal diseases, and a local authority or person so authorised, and any person obtaining a supply of any such drug, medicine, or preparation from or through them or him, shall not be liable to any action or proceedings in respect of the importation, purchase, sale, distribution, or use thereof on the ground that any patent or other similar rights are infringed thereby. In the application of this regulation to Scotland and Ireland, the Local Government Board for Scotland and Ireland, respectively, shall be substituted for the Local Government Board.' I have to refer to the Board's Order of 26th October last, and to state that as local authorities are now engaged on the preparation of schemes for the diagnosis, treatment, and prevention of venereal diseases, and some are actually providing treatment at present, the Board deem it advisable to authorise, as they hereby do, all local authorities within the meaning of the Public Health (Scotland) Act, 1897, to purchase and distribute any drug, medicine, or medicinal preparation specially designed for the treatment of venereal diseases."

THE TREATMENT OF MALARIA.—In a recently issued pamphlet

by Drs. Breinl and Priestley of the Australian Institute of Tropical Medicine, Townsville, upon *Malaria contracted in New Guinea by Members of the Expeditionary Force*, there are to be found certain observations upon treatment which are likely to be of value to those who have to deal with the disease. After comparing the various methods of administration of quinine, and pointing out the precautions necessary in intramuscular or intravenous injections, the authors indicate that the parasite of New Guinea, although in most cases of the simple tertian type, seemed to be more resistant to quinine than that of most other localities. Relapses under moderate doses of quinine were frequent, and a more vigorous treatment was therefore instituted. This consisted in the daily administration of 30 grains of the bihydrochloride or bisulphate—the most soluble salts—in three doses for three or four weeks, followed by 30 grains every other day for two weeks, then 20 grains every other day for two weeks, and, finally, 20 grains twice weekly for at least another two months. The initial dose is continued for about a month, as three weeks is usually considered the life span of a gamete. Prolonged treatment is necessary on account of the chronicity of the infection, but rest in bed is rarely necessary for more than one week, as patients rapidly become tolerant of large doses of quinine, and after a fortnight moderate exercise should be encouraged. A liberal diet is allowed as soon as the fever has abated, which it does, as a rule, in two or three days. Alcohol is to be avoided, even in the smallest quantities, while quinine is being taken. In the treatment of an acute attack, the first dose of quinine should be given about three hours before the fastigium is expected. While large doses are being taken, the bowels must be kept well open by magnesium sulphate or Carlsbad salts. Potassium bromide, in 5-grain doses, should be given to combat the toxic symptoms, and, if these persist, an additional dose of 10 grains, with 2 minims of tincture of ergot, is usually effective. The tremors of cinchonism abate soon after treatment is stopped. Any intercurrent ailment must receive attention at the same time. In severe cases a combined treatment with arsenic should be instituted, 3 grains of soamin being given hypodermically in 30 minims of warm normal saline solution for four days, the course being repeated three times at weekly intervals.

GLASGOW HOSPITAL SUNDAY FUND.—The annual meeting of this Fund was held on 21st March, Sir James Bell, Bart., in the chair. The report stated that the total income in 1916 from churches and Sabbath schools, including donations and bank interest, amounted to £6,531, 15s. 10d., an increase of £1,486, 3s. 1d. compared with the preceding year, and an excess over any previous year of £1,255, 10s. 11d. The sum set aside for the infirmaries was £6,280, and the same course was followed in making the division as in previous years, namely, in proportion to the number of fully-occupied beds in each Infirmary. The allocation was as follows:—Royal Infirmary (767 beds), £3,089, 12s. 11d.; Western Infirmary (540 beds), £2,175, 4s. 10d.; Victoria Infirmary (252 beds), £1,015, 2s. 3d. After meeting the working expenses there was a balance of £3, 16s. carried forward to next year. The number of churches contributing to the fund during the past year was 424, against 421 in the previous year; and the number of Sabbath schools was 255, against 231. The average amount per church was £13, 15s. 3d., compared with £10, 15s. 10d. in 1915. The average per Sabbath school was £2, 9s. 10d., against £1, 19s. 11d.

Sir James Bell said he considered that the primary cause of the largely increased liberality was the conditions under which we were living. Everyone had been drawn by the sufferings of kindred at the front, and also by the sufferings in ordinary civil life, which had been lessened and ameliorated through the great infirmaries. The churches had shown substantial recognition of the work accomplished in the hospitals, and the return showed an increase of £1,486 over the previous highest total. When they looked back to 1893 it was found that the total amount received from all denominations was only £2,090, so that there had been an increase of £4,400 over the pre-Hospital Sunday conditions. The report was adopted, Mr. James Macfarlane seconding.

Mr. J. D. Hedderwick moved a vote of thanks to the clergy, which was seconded by Mr. Graham.

The Chairman also bore tribute to the valuable services of the churches. The good that was done in the Infirmaries was not realised except by those who came in contact with work in the wards, and it was while he was chairman of the Royal Infirmary and saw what was being done that the idea of Hospital

Sunday occurred to him. The movement had been a record of success.

GLASGOW CANCER HOSPITAL.—The annual meeting of qualified subscribers to Glasgow Cancer Hospital was held on 23rd March, Mr. John MacLeod, M.P., in the chair. The annual report stated that during the year 218 patients had been treated in the hospital and 30 in the outdoor department, while the district nurse had made 1,317 visits. The extraordinary income and expenditure account showed that legacies amounting to £2,238 were received, which, after deducting a deficit of £920 from the ordinary account, left to be carried forward to the credit of the capital account a surplus of £1,318.

In moving the adoption of the report, Mr. MacLeod remarked on the exceptional character of the times in which we lived. He said that there would have to be a reorganisation from top to bottom, and one direction in which reorganisation was required was in the method of collections to such institutions. He doubted if more than a decimal point of those who subscribed to charitable and philanthropic institutions realised how much they gave in relation to their income. They were sometimes irritated when appeals flowed in, and were apt to think that they gave much more than they really did. He suggested that if the contributions were systematically laid aside it would be of great advantage. He did not think that sufficient consideration was given to the collectors. Subscribers ought to remember that they were collecting not for themselves but for the good of others. He paid a high tribute to the work of the research department of the hospital and to the indomitable courage shown by those engaged in it. While their discoveries might not always prove equal to their labours, they had the consolation that they alleviated to a large extent the misery of those who suffered from the dire disease. He paid a warm tribute to the memory of Dr. Gourlay.

Sir George Beatson, who seconded, also emphasised the value of the research work, and said if the subscribers knew the work done in the hospital it would command their heartiest support. No institution could be more cordially recommended for public support.

GLASGOW LOCK HOSPITAL.—The annual meeting of Glasgow Lock Hospital was held in the Religious Institution Rooms, Glasgow, on 21st March, Dr. A. K. Chalmers in the chair. The report showed that the patients admitted during the year numbered 433, as against 309 in 1915. The financial statement showed a surplus of £13, 17s. 9d., as compared with a deficit of £258, 11s. 9d. in 1915.

In moving the adoption of the report, Dr. Chalmers referred to the report of the Royal Commission on Venereal Diseases, and expressed the opinion that the Commission struck an exceedingly important note when they said that after the best had been done to cure the disease nothing had been done towards prevention. People must have a higher standard of individual conduct if a successful fight was to be made against the disease. That could be done by enlisting the sympathy of the churches. Unless the churches stood in and helped to raise the moral character of the people, the campaign against venereal disease would be very largely nugatory. He hoped they were fairly resolved that the question was to be dragged from its secrecy and shown up as the terrible scourge it was both morally and physically.

GLASGOW DISTRICT MENTAL HOSPITAL, WOODILEE: ANNUAL REPORT.—In his recently issued annual report to the Hospital Committee, Dr. Henry Carre, medical superintendent of the Glasgow District Mental Hospital, Woodilee, Lenzie, states that the number of admissions for the year was 305, a decrease of 131 as compared with the previous year (in which the admission rate was exceptionally high), and a decrease of 18 compared with the annual average of the preceding ten years. From the reduced number of admissions, he states, it is evident that the war has had little or no effect on our population. Fifteen men who had been on military service were admitted during the year; nine of these broke down mentally during military training, and six while on active service at the front. Of the nine men who had a mental breakdown during military training, two showed signs of congenital mental defect, two had a strongly alcoholic history, one had a previous attack of insanity, one was suffering from general paralysis, and one was an epileptic. Of those who went insane while on active service,

one had a hereditary insane history, one had a hereditary tubercular history, one had a previous attack, and one was a congenital moral defective. In the cases of ten females the exciting or predisposing cause of mental breakdown was ascribed to anxiety regarding relatives in the fighting line.

GOVAN DISTRICT ASYLUM, HAWKHEAD: ANNUAL REPORT.—
Dr. James H. MacDonald, medical superintendent of the Govan District Asylum at Hawkhead, in his report for last year, states that amongst the causative factors of insanity there stand pre-eminent bodily weakness, alcoholic excess, and psychopathic heredity. Of the patients admitted, 70 per cent were in weak bodily health. Amongst those admitted for the first time alcoholic excess existed in 24·3 per cent of the men and in 3·7 per cent of the women. Hereditary influences were ascertained to be present in 12·1 per cent of the men and in 14·8 per cent of the women. Only in the cases of two women and seven men could the war be said to have had any direct influence in causing the onset of mental disorder. In the case of the women, worry consequent upon their sons having joined the Army was held to have been a causative factor. Of the seven men, two had been on active service, one had previously served in the Army, three had been greatly disturbed by fear of conscription, and one was a Danish seaman who had been overcome by fear of submarine attack. Referring to the subject of research, Dr. MacDonald states that it is to be hoped that when the war is over the investigation of the causes of insanity will receive greater encouragement and support than in the past.

REVIEWS.

Surgical Anatomy. By JOHN A. C. MACEWEN, B.Sc., M.B., C.M., F.R.F.P.S.G. Second Edition. London. Baillière, Tindall & Cox. 1916. (10s. 6d. net.)

WE note with pleasure the appearance of a second edition of Mr. Macewen's excellent little work on *Surgical Anatomy* at no long interval after the original. In the new issue some additions have been made to both the letterpress and the illustrations, but without materially increasing the size of the book. A brief but useful discussion on surface anatomy now precedes each division of the subject, and will be found very convenient. We observe that the author continues to stand by the old nomenclature, which, no doubt, is still the more widely known. Mr. Macewen's work is a sound exposition of its subject, and as such we can cordially recommend it to students and practitioners.

Surgical Contributions from 1881-1916. By RUTHERFORD MORISON, M.B., F.R.C.S. Two Volumes. Bristol: J. Wright & Sons, Limited. 1916. (Vol. I, 15s. net; Vol. II, 30s. net; two Vols., 45s. net.)

Two handsome volumes of these *Contributions* are now before us. During the course of a long and active career Mr. Rutherford Morison has made many important contributions to the literature of surgery, and it is not surprising that his numerous admirers have thought fit to collect them and place them within the reach of distant readers. It is not only to students of surgery that the name of the author is familiar: it is well known to the profession generally, and is one of those which at once rises to the mind whenever the Newcastle Medical School is mentioned.

We are told in the preface that everything of the author's which has appeared in print has been republished now. It is therefore too much to expect that the numerous items in the volumes are all of equal weight. Some of them are distinctly of the nature of "minor" contributions; but all are interesting, whether great or small, as showing the author's attitude to his work.

In collections such as this, extending over a long period of years, it is unavoidable that in some cases the author's early opinions are not supported by his more mature experience. In view of this the author has, wherever occasion has demanded it, added footnotes in italics in which he either reaffirms or corrects his early views.

Of the two volumes the first deals with General, the second with Abdominal Surgery.

In Volume I there are, besides notes on cases of interest, remarks at medical meetings, &c., a number of papers on such subjects as antiseptic dressings, injury of semilunar cartilages of knee, diseases of bone, psoas abscess, tumours of the breast, and many others.

The papers on the antiseptic treatment of wounds are full of interest and are well worthy of study by surgical teachers of to-day. Such study would doubtless lead to a more active promulgation of the antiseptic system. This, from its simplicity and the excellence of its results, is eminently suitable for all classes of surgical practice. Especially is this the case when the practitioner may have to work in surroundings very different from those of the modern operating theatre. We agree with Dr. D'Oyley Grange, who has written the preface to the volumes, when he says that " . . . we now see that if the best chance of recovery from wounds is to be given to our soldiers, a return to the principles of Lister, with, perhaps, some improved methods, will have to be encouraged; and it is advisable that the principles should be thoroughly studied by those who have not as yet fully comprehended them." We mention this subject particularly on account of its general interest; but we would also direct the reader's attention to the other contributions in this volume, as from them he will learn much that is of value.

Volume II is much more bulky, and contains the author's

numerous contributions to the literature and practice of abdominal surgery. Space forbids us going into details ; but we would say generally that there is a very great deal of information to be gained from a perusal of its contents, and many observations of great value are therein contained.

We congratulate the author on his work ; the friends to whose suggestion the collection owes its origin ; and the publishers, on the handsome volumes in which they have presented it. It has been to us a great pleasure to renew our acquaintance with some of the contributions, and to have the chance of making new acquaintances among many of the others.

Diseases of the Throat, Nose, and Ear, for Practitioners and Students. By W. G. PORTER, M.B., B.Sc., F.R.C.S.Ed. Second Edition. Fully Revised for the Author during his absence from England in the Service of his Country, by P. McBride, M.D.Ed., F.R.C.P.Ed., F.R.S.E. Bristol: John Wright & Sons, Limited. 1916. (7s. 6d. net.)

WE learn from the publishers' note that the first edition of this excellent work was rapidly sold. At the outbreak of the war in 1914 the author was preparing to revise it thoroughly in a new edition. Dr. Porter, however, volunteered for service, and in his absence abroad Dr. McBride has revised the work and brought it up to date. This has been done chiefly by reference to suspension laryngoscopy and by a description of the pointing test in cerebellar abscess. These additions are of value and are welcome. There is, however, a misprint which was not present in the first edition on page 161, and the sentence at the top of the page is unintelligible. (By the way, as Scotsmen, we think that the reference on the title page to the author's "absence from England" is somewhat unfortunate.)

We expressed our appreciation of the work in these pages when the first edition was reviewed, and we quote—"In the short pithy descriptions of the various diseases he [the author] has omitted nothing of importance. Major operations are not detailed, but otherwise the lines of treatment are concisely pointed and are thoroughly up to date. The value of the book

is enhanced by the excellent illustrations. . . . We have every confidence in recommending the book as a thoroughly practical one, and feel sure that the practitioner who adds it to his library will find it of service."

The American Year-Book of Anesthesia and Analgesia.

Edited by F. H. McMechan, A.M., M.D. New York: Surgery Publishing Company. 1916. (\$4.)

In an "Editorial Foreword" the *raison d'être* of this handsome and interesting production is stated to be that it is an attempt to collate the world's ultra scientific researches in these subjects. It had been expected to have the list of contributors more international in character, but the unfortunate war conditions on the continent prevented, hence all the articles contributed are from American sources with the exception of two from A. Goodman Levy and Wilfrid Harris, of London.

We have read this *Year-Book* with the greatest pleasure. We say without hesitation that there is hardly an article which does not show signs of careful thought and much instruction. Our only regret is that in the space allowed to us it is impossible to do justice to what is an all-round excellent production. Among its contributors are well-known physiologists, surgeons, and anæsthetists. We may mention Crile, Yandell Henderson, Gotch, and Gwaltmay as an example of what care has been taken by the editor to secure the best talent.

Perhaps to our old world notions articles such as the "Use of music during anesthesia" and one on "From the outside looking in," giving the lay point of view, may seem unnecessary. Still even a gramophone playing in the next room while a patient is being operated on under spinal anæsthesia might help to distract the attention and make the ordeal less trying. The hint, too, of the lady patient that a dentist is unwise to allow his office to reek with carbolic instead of some fragrant flowers is a small detail, yet not without its practical side. We have articles dealing with "The theory of anesthesia," "Blood changes under anesthesia," "The peripheral origin of shock," and "Blood-pressure under anesthesia."

Crile contributes under "Anesthesia, anæmia, and resuscitation." In a series of experiments on dogs he found that those lightly anæsthetised with ether, and then killed with chloroform quickly, showed that the average limit of cerebral anæmia which admits of recovery after the cessation of the heart's sounds to the return of circulation is between six and seven minutes. From a practical point of view he states that any grave anæmia of the brain, apart from its possibly causing death, causes also damage to nerve cells, some of which are permanently affected and *all* are temporarily damaged. It argues against the practice of allowing the blood-pressure to fall extremely low in cases of hæmorrhage before resorting to transfusion.

Yandell Henderson has an article on "The modern conception of respiration in relation to acapnoe."

An article, "Mortality under anesthetics," indicates that there is no anæsthetic known which is free from death risk. At one time nitrous oxide and oxygen was claimed to be perfectly safe; but further experience shows that, though safer than other anæsthetics, deaths occur from time to time. The Committee of the American Medical Association in 1912 reported that (1) the use of chloroform as an anæsthetic for major operations is unjustifiable; (2) for minor operations the use of chloroform should cease; (3) chloroform is sometimes found convenient for initiating anæsthesia in alcoholic or other difficult subjects. We wish to call attention to (3), for it seems to us rather to detract from the conclusions of (1) and (2).

It is precisely because experienced anæsthetists find that to get good anæsthesia they must employ chloroform in a considerable number of cases that we must protest against such emphatic rulings. We agree, however, with the Committee that as far as possible chloroform should never be used as a preliminary to other anæsthetics.

Levy has an interesting contribution on "Cardiac fibrillation and chloroform syncope." As a result of physiological experiments and clinical observations, he holds that in giving chloroform the first principles are: to keep the patient *fully anæsthetised* and to make *the administration continuous*. In the induction stage the administration should not only be continuous but should also be progressive: the strength of the

vapour should be increased as rapidly as possible without distressing the patient.

Gwaltmay discusses "Ether colonic anesthesia." This is no new development, for Roux suggested it in 1847. The ether mixture (65 per cent ether and the rest olive oil) is poured into the rectum from a funnel, to which is attached a rectal tube 28 inches in length. The ether oil is poured very slowly, at least 5 minutes being taken to introduce six ounces. Full surgical narcosis is reached in ten to thirty minutes. He claims that the results are very satisfactory in selected cases, and specially so in head and neck surgery.

We cannot believe that "The use of nitrous oxide in obstetrics" will ever become essential, for the experience, in this country at any rate, is that of all conditions for which chloroform is employed its employment in labour may be claimed as practically without risk. A gynæcological friend suggested to us that he believed that the safety was largely due to the fact that the patient longs for it and takes it without fear.

McMechan contributes a useful article on "The nasal administration of nitrous oxide oxygen." We have other articles on "Late chloroform poisoning," "Kidney function and anesthesia," "The nasal administration of somasform," and various papers dealing with local and spinal anæsthesia.

We once more wish to express our conviction of the high value of this book. It reflects great credit on the American anæsthetic school, and we hope there may be many succeeding volumes in the future.

The Mortality from Cancer Throughout the World. By
FREDERICK L. HOFFMAN, LL.D., F.S.S., F.A.S.A. New
Jersey: The Prudential Press. 1915.

THIS most informative work on cancer is written by an actuary, and may be taken as outlining the official insurance aspect of the problems created by that disease. In large measure it is a statistical work, and as such it must be assigned a place of importance in the literature, for only when the data which able statisticians alone can collect have been scrutinised and

interpreted, can we define our position towards, and hope to be adequately armed for, attacking this greatest of scourges. Deductions, of course, have been made from the figures given, and it is extremely interesting to note how they play round certain factors; and seem to point, although in tentative fashion, towards causation. Mr. Hoffman's labours have produced a notable work, not one which can be read as a text-book, but one which should be in the reference library of everyone who is playing any part in elucidating what is perhaps the premier problem of medicine.

The Diseases of Women. By Sir JOHN BLAND-SUTTON, F.R.C.S. Eng., and ARTHUR E. GILES, M.D., B.Sc. Lond. Seventh Edition. London: William Heinemann.

THIS excellent book has now reached its seventh edition, and this alone speaks for it. There has been a rearrangement in the system of classifying diseases, the "pathological" system being adopted instead of the "anatomical." This is according to the more modern views, and is an improvement.

In the earlier editions this book was one of the best, and in some respects it still holds its own, but the descriptions of operations are not up to the standard of some of the newer books. Take the operations on the perineum where "two fingers of the left hand are introduced into the rectum to put the parts on the stretch." In a complete tear one must deal with the rectum, but in an incomplete tear, why introduce a procedure which is unnecessary, and which will very much militate against complete asepsis?

In the treatment of retroflexion where operation is required, hysteropexy is the operation the authors prefer and describe. Mention is made of shortening of the round ligaments, but there is no description of any of the various operations which are practised.

In doing Cæsarean section they advise an abdominal incision from the umbilicus to the pubes. We do not agree with this. The incision should be partially above the umbilicus to allow of the uterus being incised as high as possible to avoid opening the lower uterine segment. In closing the uterus they advise

a row of silk sutures through "the mucous and the adjacent half or thereabouts of the muscular layer," and then a second row including the remainder of the muscular coat and the peritoneum. We cannot understand stitching the mucous coat, as what is left of it is shed in the lochial discharges. "In order to sterilise the patient the surgeon may perform double oöphorectomy." He may, but if he is wise he will not do so, but adopt the other method which is described, viz., tying and cutting the tubes between the two ligatures. The authors mention that the latter method is preferable, as young patients are spared the inconvenience of an artificial menopause, but why should they have mentioned a procedure which in ordinary cases should never be adopted?

The book is well illustrated and in many ways it is excellent, but the operation part of it could be improved.

The Basle Anatomical Nomenclature [BNA], being an Alphabetical List of Terms showing the old Terminology, the B.N.A. Terminology, and the Suggested English Equivalent.
By E. B. JAMIESON, M.D. London and Edinburgh: W. Green and Son, Limited. 1916. (6s. net.)

THIS is a separate reprint of the article in the first volume of the new edition of the *Encyclopædia Medica*, which has already been reviewed in these pages. The value of the comparative juxtaposition of the older and newer names is such that it has no doubt been felt that the work ought to be accessible to a wider public. Teachers of medicine and surgery, who are not so familiar with the newer terminology as anatomists must necessarily become, and who yet are increasingly driven to use it as the older becomes unfamiliar to their students, will find the volume almost indispensable; and anatomists themselves will doubtless welcome its assistance at times when insistent older memories threaten to displace their more recent acquisitions. To students, in the years of transition, it will prove a very necessary companion, and its modest price will bring it within the reach of all.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

SURGERY.

Osteochondritis Dissecans. By E. G. Brackett and Custis Lee Hall (*Amer. Jour. of Orth. Surgery*, February, 1917).—It is only of late that this condition has been properly studied, particularly since the use of the median patella incision allowed adequate approach for examination. It occurs mostly in men, and in those whose occupations subject the knee to violent usage. The early symptoms are indefinite, but later there may be very distinct catching or locking in the joint, lasting for a few minutes or even a day. A slight degree of traumatic synovitis may also be present. X-rays show faint but distinct irregular areas of osseous defect on the articular edge, nearly always on the outer side of the inner condyle. One or two loose oval bodies may show faintly.

The only satisfactory avenue of approach is by the median patella incision. Care is taken to preserve both the ligamentum mucosum and its attachments. When the joint is thus exposed and flexed to a right angle the synovial membrane is seen, in typical cases, to be normal, and the only abnormality detectable in the articular cartilage is an irregular depressed area on the outer side of the inner condyle. Lying loose in the joint are one or two cartilage-like bodies with smooth edges. There is much evidence that these do not correspond to the joint bodies found in various forms of arthritis, as, for example, in most cases of this disease there are no signs in the joint of chronic inflammation. Further, there is much to be said in favour of a traumatic origin, illustrative of which cases are quoted by the authors.—CHARLES BENNETT.

Technique of Transvesical Prostatectomy. By Paul M. Pilcher (*Surgery, Gynecology, and Obstetrics*, February, 1917).—The author has developed a technique for transvesical prostatectomy which goes far to eliminate the unpleasant features usually accompanying removal of the prostate. He claims for his method the following advantages:—

1. Renal decompression with the least risk.
2. Complete urinary drainage without leakage.
3. The securing of primary union of the cystostomy wound.
4. Full recovery from the stage of depression following renal decompression.

5. Transvesical enucleation of the prostate without re-opening the prevesical and perivesical tissues.

6. An absolute means of controlling the hæmorrhage following prostatectomy. Specially constructed bags bring direct pressure to bear on the bleeding surfaces.

7. Simple means of keeping the patient dry.

8. Shortening the period of confinement to bed. The patient is allowed out of bed in from twenty-four to forty-eight hours after the operation.

9. Systematic education of the bladder to resume its function early.

The operative procedure is, of course, carried out in two stages—suprapubic cystostomy and then prostatectomy. The first is done under local anæsthesia if possible, and in this the incision into the bladder should be as high as the peritoneal reflection will allow. A tube is fixed in position, and then all dead space between symphysis, fascia, and bladder wall is obliterated by catgut sutures. When the time for prostatectomy has come the suprapubic opening is enlarged downwards and laterally, but never upwards. The finger is forced into the prostatic urethra, and the real enucleation begun from there. If hæmorrhage demands it, pressure is applied by the bag hæmostat, which provides for the drainage of urine through a urethral tube.—CHARLES BENNETT.

Books, Pamphlets, &c., Received.

Practical Bacteriology, Blood Work, and Animal Parasitology, including Bacteriological Keys, Zoological Tables, and Explanatory Clinical Notes, by E. R. Stitt, A.B., Ph.G., M.D. Fourth edition, revised and enlarged, with 4 plates and 115 other illustrations, containing 505 figures. London: H. K. Lewis & Co., Limited. 1916. (9s. net.)

Les Dysenteries Le Choléra Asiatique Le Typhus Exanthématique, par H. Vincent et L. Muratet. Collection de Précis de Médecine et de Chirurgie de Guerre. Paris: Masson et Cie. 1917. (4 fr.)

Les Blessures des Vaisseaux, par L. Sencert. Avec 68 figures et 2 planches hors texte. Collection Horizon Précis de Médecine et du Chirurgie de Guerre. Paris: Masson et Cie. 1917. (4 fr.)

Le Traitement des Plaies Infectées, par A. Carrel et G. Dehelly. Avec 78 figures dans le texte et 4 planches hors texte. Collection Horizon Précis de Médecine et de Chirurgie de Guerre. Paris: Masson et Cie. 1917. (4 fr.)

Sanitation in War, by Major P. S. Lelean, C.B., F.R.C.S., F.C.S., D.P.H., R.A.M.C., with an Introduction by Surgeon-General Sir Alfred Keogh, K.C.B., M.D., F.R.C.P. With 54 illustrations. Second edition. London: J. & A. Churchill. 1917. (6s. net.)

Essentials of Physiology, by F. A. Bainbridge, M.A., M.B. Cantab., D.Sc. Lond., F.R.C.P., and J. Acworth Menzies, M.A. Dunelm., M.D. Edin. Second edition. With 173 illustrations. London: Longmans, Green & Co. 1916. (12s. 6d. net.)

Transactions of the Thirty-eighth Annual Meeting of the American Laryngological Association, held at Washington, D.C. New York: Published by the Association. 1916.

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR
THE FIVE WEEKS ENDED 28TH APRIL, 1917.

	WEEK ENDING				
	Mar. 31.	April 7.	April 14.	April 21.	April 28.
Mean temperature,	38·3°	34·5°	36·4°	43·0°	49·1°
Mean range of temperature between highest and lowest,	10·2	11·0	10·5	11·8	11·1
Number of days on which rain fell,	5	3	5	4	2
Amount of rainfall, . . ins.	0·61	0·27	0·58	0·35	0·01
Deaths (corrected), . . .	418	386	410	411	421
Death-rates,	19·5	18·0	19·2	19·2	19·7
Zymotic death-rates, . . .	2·2	2·7	2·3	2·8	3·7
Pulmonary death-rates, . .	5·3	4·7	5·1	5·2	4·2
DEATHS—					
Under 1 year,	81	79	88	72	82
60 years and upwards, . .	109	105	116	112	98
DEATHS FROM—					
Small-pox, . . . .	...	...	...	...	...
Measles,	16	23	27	28	37
Scarlet fever,	2	1	...	1	...
Diphtheria,	3	3	2	3	2
Whooping-cough,	28	34	22	29	38
Enteric fever,	1	...	...	...	2
Cerebro-spinal fever, . . .	3	2	2	2	...
Diarrhœa (under 2 years of age),	5	6	7	...	2
Bronchitis, pneumonia, and pleurisy,	77	83	76	81	63
CASES REPORTED—					
Small-pox, . . . .	...	...	...	...	...
Cerebro-spinal meningitis, .	4	4	3	3	1
Diphtheria and membranous croup,	34	24	28	21	21
Erysipelas,	16	13	22	12	21
Scarlet fever,	47	31	29	44	46
Typhus fever, . . . .	...	...	...	...	...
Enteric fever,	2	...	...	1	3
Phthisis,	62	53	53	69	74
Puerperal fever,	1	4	1	4	...
Measles,*	542	443	386	704	778

* Measles not notifiable.

THE
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No. VI. JUNE, 1917.

ORIGINAL ARTICLES.

MATERNITY AND CHILD WELFARE SCHEMES: RESPONSIBILITY OF LOCAL AUTHORITIES UNDER THE NOTIFICATION OF BIRTHS (EXTENSION) ACT, 1915.*

By A. K. CHALMERS, M.D., F.R.F.P.S.G.,
Medical Officer of Health of the City of Glasgow.

IN order to compress the discussion of the subject on which I am to address you within the limit of the time at our disposal, it is necessary to restrict consideration of the scope of the Notification of Births (Extension) Act to certain well defined requirements.

The first of these has reference to the power which the new Act confers on Local Authorities. In Scotland the Act differs in some essential details from the form which it takes in England, and the words used scarcely admit of any dubiety. Any Local Authority may make whatever provision seems to

* Read at a meeting of the Glasgow Royal Philosophical Society, 13th March, 1917.

them necessary for the health of the expectant mother, the nursing mother, and the child under five years of age, as defined by the Education (Scotland) Act. The only condition is that the scheme should be approved by the Local Government Board.

Properly considered, this suggests some means by which the expectant mother, if required, may obtain both advice and treatment. It also suggests that it becomes equally a duty of the local authority to provide whatever enters into our conception of the physical surroundings essential to the welfare of childhood, within the limit of the years referred to.

It may be said that schemes for such purposes are largely ideal, but I am quite sure that anyone who urges this aspect of the matter does not give due consideration to things as they are. What, for instance, is the significance of the statement recently made regarding school children in England and Wales? One million out of six millions of children of school age were, in the words of Sir George Newman, so defective mentally and physically that they were unable to take advantage of the ordinary means of education provided for them. That result is a significant commentary on the failure of existing methods of preventing disease, and on the need for reducing very materially the wastage which the figures indicate.

In considering how the object of the Act may best be accomplished, it will be remembered that current opinion has already crystallised round the earlier and more urgent needs. Some of these may be met by a new or extended use of existing organisations. Others will require the operation of machinery devised for the purpose.

Dispensaries.—For the expectant mother who can seek advice dispensaries or pre-natal consultations are required, at convenient centres, supplemented by a system of home visitation in cases where attendance at a dispensary is impossible, and residence in a hospital unnecessary. Corresponding facilities are required for children, and our existing infant consultations may readily become expanded where new provision is necessary.

Hospital accommodation.—But by whatever way we propose to discover the adult patient in whom the disorders of pregnancy may lead to graver peril unless efficiently dealt with, or the nursling whose disordered digestion is preparing the way for some form of adult inefficiency should he survive, cases are bound to occur not infrequently where circumstances will combine to render the provision of hospital beds necessary. In the case of the child at least the full utility of the bed will only be obtained when it is associated with ready access to a laboratory fully equipped to enquire into the physical and chemical defects of food and digestion, and prepared to construct synthetically the form of food adapted to physiological needs; or, alternatively, so to influence by treatment the health of the mother when the child is still being nursed.

For ante-natal conditions generally the Maternity Hospital and the Nurses' Training Home, Govan, should prove most suitable centres for advice or treatment, and interviews with reference to the development of such special functions have taken place between representatives of the Infant Welfare Committee of the Corporation and of the Royal Maternity Hospital, the Royal Hospital for Sick Children, and the Nurses' Training Home.

In a similar way for the nursling alone, or accompanied by its mother, one looks to the Sick Children's Hospital as the natural place for bed accommodation, while its dispensary may act as a unit in the scheme for outdoor treatment. But, to yield their full value, beds should be available on demand; there should be no waiting list; and, in consequence, it would seem that here at least the problem of dovetailing rate-aided machinery into the administration of institutions conducted on a voluntary basis will require careful adjustment if the full benefit of voluntary contributions is to be maintained.

Beds of this character will, however, receive only the graver forms of ante-natal and defective nutrition cases—those cases, indeed, which cannot be efficiently dealt with in dispensaries or in their own homes.

Home visitation.—For both groups also—ante- and post-natal—some system of domestic visitation will be required for

such cases as cannot attend a dispensary and may be treated at home. The simpler form of this may be supplied by health visitors, but medical advice will occasionally at least be necessary. Where these are the wives or children of insured persons, this might be secured by the extension of medical benefit to dependants were the approved societies able to meet the cost, while for the dependants of the non-insured the option at the moment would seem to be between a whole-time municipal medical service and an arrangement with local practitioners on the parallel of the existing panel. Local conditions will probably in the first case determine the initial arrangement, but here, as in the case of the voluntary hospitals, circumstances would appear to be demonstrating the necessity for recasting to some degree the form under which medical service is to be provided.

The elements in a welfare centre.—Even an elementary conception of a maternity and child-welfare centre, however, would include more than is here indicated. There is abundant evidence that much of the loss of life in infancy is avoidable only by adequate antecedent attention to the health of the mother, and the new Act is a frank acknowledgment that hitherto provision for this has not been adequate.

In like manner, save for tentative efforts made to combat mortality during the first year of life, the widespread neglect of children during the period which intervenes until the school age is reached has only become clearly demonstrated since medical inspection of school children disclosed the prevalence of defects acquired before the school period begins. The Act provides for the filling of these gaps, and public opinion, once it fairly grasps the importance and scope of the provisions which the Act enables a Local Authority to make, is not likely to remain satisfied with any scheme which tries to find expression only through adjuncts to existing institutions. Indeed, it seems a reasonable anticipation that the Act will supply the means for creating a new objective for public sentiment and activity, and the child-welfare institute of a district may in time become a centre both of sentiment and effort to prevent children becoming permanently handicapped

by defects which may be averted. The number of such centres must be determined by the requirements of the population. For Glasgow, one is required in each of the industrial districts; but to be successful it must be on a scale commensurate with its purpose and attractive enough to arrest attention. If this is kept in view valuable results are likely to follow.

It is, however, probably necessary to enter a word of caution. There is some danger that the Act may be regarded as capable of successfully combating all the defects in our child population, and producing a healthy and vigorous race amidst surroundings which have so notably failed in the past. I gravely doubt this. The Act is an auxiliary measure, and, given an adequate basis in substantial reform of environment, is capable, I believe, of enormously benefiting the children who will come under its operation. But it would be a mistake of the first magnitude to hope that the best results may be obtained unless it is associated with reform in the conditions of housing on a scale very much wider than has hitherto been attempted, and with a continued insistence on all the other factors in sanitary reform which experience has shown to be of value. As an adjunct to these it is possible, I believe, to anticipate a time when physical deterioration will cease to be a necessary feature of city life.

In a child welfare centre of the character I have indicated there would be included an ante-natal clinic and an infant consultation, a crèche or day nursery, an ample playground, and a kindergarten, all of them constituting a school of instruction both for students and mothers. Diets would be held for the periodic inspection of children during the whole pre-school age.

The centre should be on a scale sufficient to supply all the requirements of the district, and ample enough in its scope to stimulate civic sentiment round what is fitted to become a new factor in corporate life. Crèches or day nurseries hitherto have been available only for the children of mothers who are compelled to seek work away from their homes. In the Memorandum of 9th April, 1915, on an experimental crèche in one of the parks, emphasis was laid on the need for similar provision for all children in the poorer districts, and the need for this must be obvious to anyone who observes the swarms of

children who try to find healthy exercise in the streets and back courts of these areas. An open-air crèche of this character is one of the most urgent needs.

Fresh-air fortnight schemes and country homes for the more definitely invalid children are extensions essential to the development of the scheme, and existing organisations for these purposes should be invited to co-operate.

It is of interest to consider whether the extended powers conferred on Local Authorities by the Act may be developed in relation to the existing institutions of Glasgow so as to constitute a scheme for giving effect to the provisions of Section 3 (1) (b) of the Act. This section reads:—

“Any Local Authority within the meaning of the principal Act may make such arrangements as they think fit, and as may be sanctioned by the Local Government Board for Scotland, for attending to the health of expectant mothers and nursing mothers, and of children under five years of age within the meaning of Section seven of the Education (Scotland) Act, 1908.”

For the first time, therefore, a definite administrative function has been attached to the Notification of Births Act, which in its original form was passed in 1907.

Hitherto the work of the Infant Mortality Committee and of the voluntary organisation of health visitors now known as the Glasgow Infant Health Visitors' Association, which has so ably co-operated with the Committee, has been tentative and experimental, and confined almost of necessity to the first year of infant life.

The Extension Act enables this work to be approved and consolidated, and extended, not only to children under five years of age, but to expectant and nursing mothers. It completes, indeed, the legislative provision for the welfare of children, by enabling Local Authorities to make special provision for the health of children up to the period when they pass under the supervision of the School Board.

It may be suggested that in one form or another much of the work which may be included within any scheme of child welfare is already being undertaken by the Corporation scheme

or other agencies. There are, *e.g.*, in addition to the committee's schemes of infant consultations and domiciliary visiting, a maternity hospital, a hospital for sick children, day nurseries, the East Park Home for Infirm Children, and the Children's Fresh-Air Fortnight Scheme. But an infant clinique is almost unknown in a children's hospital, and until lately, if not indeed until now, the work of a maternity hospital was strictly confined to provision for women in labour. Expectant mothers, save among the affluent classes, are still guided by the traditions of folk-lore.* So also with regard to the East Park Home and the Sick Children's Hospital, their function in the past has been exclusively that of dealing with disease after it has become established. The object of the Act, on the other hand, is to get at disease in the process of making; to provide means, indeed, whereby early departures from a physiological standard of healthy living may be recognised, and dealt with before they have become confirmed and established as diseased functions.

It therefore begins by enabling provision to be made for the health of the mother before her child is born, and for continuing this throughout the period of nursing. When this period is over the health of the child may still be supervised until the fifth year, *i.e.*, during the period in which perverted nutrition and defective personal hygiene lay the beginnings of future inefficiency.

In place of the continuous attention implied in any such scheme, the action of all the measures now in operation can only be regarded as occasional and intermittent, and this provision of the Act enables these defects to be remedied.

A complete scheme will of necessity be a matter of development. Mainly it would require—

1. Effective control of midwives.
2. The formation of one or more infant cliniques, which are essentially for children who are ill, in intimate association with the existing infant consultations and home visiting by the nurses and visitors of the G.I.H.V.A.
3. The association of all these with hospitals for acute and chronic illnesses, convalescent and fresh-air homes, and open-air crèches.

* About 10 to 15 per cent of admissions to Maternity Hospital are for pre-maternity reasons—persistent sickness, kidney, heart, &c., &c.

For this section of the work the Sick Children's Hospital, the East Park Home, and the Fresh-Air Fortnight Schemes might be expected to afford much of the bed accommodation required, but to be effective it should be available on demand.

4. The provision of consultations for expectant and nursing mothers. These might most conveniently be associated with the Maternity Hospital, the Training Home for Nurses in Govan, and the consultations for infants.

5. The association of the day crèches with the infant and children consultations. These crèches might in suitable premises form admirable nuclei of schools for mothers.

These would supply the main elements in the scheme; but to give them cohesion it will probably be desirable, and I believe the Executive Committee of the Infant Health Visitors' Association will be willing, to recast the working arrangements of the visiting scheme, so as to bring the voluntary visitors and the nurses into closer co-operation.

Details of this arrangement are not required here, but its main feature would endeavour to divide the visitors into groups of 30 or 40, and attach a nurse to each group. To each group thus composed would be allocated information regarding the children born within its special area, so that each would become responsible for passing on such children as required it to the other elements in the scheme.

Already, of course, the Corporation has broken ground in some of the directions indicated, and the work only requires expansion.

There are already 14 consultations for infants held weekly, at which, during 1914, 5,742 attendances were registered, 2,247 being first attendances and 3,495 revisits; 10 nurses made collectively 32,422 visits, 13,308 of which were first visits and 19,114 revisits; and 2,935 children were visited by the G.I.H.V.A.

In addition, a certain number of children are under treatment at Baird Street Reception House for ophthalmia neonatorum, syphilis, and gonorrhœa, and some of the mothers of the first group are also treated there.

The most important of these suggestions has reference to the formation of consultations for expectant and nursing mothers, and the Maternity Hospital and Training Home for

Nurses, Govan, should be asked to form such in addition to those which will be established at the infant consultations.

A third urgent need is a dispensary or clinique for infants who are obviously not thriving, and the provision of beds for some of these children, which might be found either in the Maternity Hospital, the Sick Children's Hospital, or Baird Street Reception House.

Were the premises of the Day Nurseries all suitable for the purpose, they would form most useful centres for the infant consultations.

In developing the work thus outlined attention would, in the first place, be devoted to the following points—(a) the difficulties more immediately affecting the mother and child before birth, and (b) until at least the nursing period is over.

Taking each separately, the ante-natal period may be said to require some means by which mothers can obtain advice, and if necessary, admission to an hospital. The former may be accomplished by the establishment of district clinics, and in some cases by home visitation. In both cases hospital beds should be available, so that rest and continued treatment may be supplied where necessary. The Maternity Hospital would appear to be the natural place for the provision of beds, and although they may also establish a clinic, it could at most only become one of several such, in order to be readily available to the several districts into which the city might be divided for the purpose. The Cottage Nurses' Training Home, Govan, might be able to establish a second district clinic, but they could scarcely be expected to send their patients who require confinement to bed to the Maternity Hospital, and I doubt at the moment if they themselves have accommodation for this purpose. In any case Rottenrow, which is the site of the Maternity Hospital, and South Avenue, Govan, of the Cottage Nurses' Training Home, might become units in a system of clinics, and the others might for the moment be supplied in places where our present infant consultations are held.

These clinics, however, obviously would only be available for women who are well enough to attend them, and would require to be supplemented by some provision for visiting expectant

mothers who are unable to attend, and who could not otherwise obtain medical advice. This could be arranged on the basis of our present infant mortality areas for nurses.

The three elements of the ante-natal scheme would therefore be (a) weekly clinics in several areas; (b) home visitation for those unable to attend: and (c) beds to be made available to both groups where necessary. The provision by the municipality of beds for this purpose may be assumed not to require consideration until it has been ascertained to what extent, if at all, the beds in voluntary hospitals fall short of the need. Associated with these, in time, one would hope to see a rescue home established for the mothers of illegitimate children.

Middle period.—Between the ante-natal and post-natal period there lies the period of confinement, which is, at the moment, probably sufficiently provided for by existing accommodation in the Maternity Hospital, but in any case can only properly be considered when the Midwives Act has come into operation and more is known of the ability of the 400 or more midwives at present in practice.

Post-natal period.—Here again the work can be grouped in sections—clinics for nursing mothers and children, beds for both, and a system of home visitation when ill-health prevents the mother's attendance at a dispensary. One here again looks to the possibility of the Maternity Hospital, Sick Children's Hospital, and Cottage Nurses' Home, Govan, forming units in a system of clinics, the others being developed alongside our existing consultations. In all cases, however, it is desirable that beds should be provided which would admit two groups of patients—(a) nurslings with their mothers, and (b) infants who are artificially fed, and might be separated from their mothers. As a considerable number, however, of both groups might have suitable home accommodation, the system of visitation already indicated for the ante-natal period might be organised for infants during the post-natal period, until the children were past the period of nursing. After this they will come under the machinery which will require to be devised for the ages 1-5, in connection with which it may be hoped that the existing Day Nurseries and the Fresh-Air Fortnight Association will become centres in a more fully developed scheme.

The following tabulations represent, on the left-hand column, the work for the reduction of infant mortality now being carried on by the Corporation, and, on the right-hand column, the proposed extensions under the recent Act :—

I. HEALTH OF EXPECTANT AND NURSING MOTHERS.

Already in operation under the Local Authority Scheme.

A. Dispensaries—

No special provision for expectant mothers, but incidental to the work of the 14 Infant Consultations, some expectant and many nursing mothers are advised.

B. Ante-natal Ward— None.

Proposed Extensions and Additions.

A. An Ante-natal Dispensary will be opened at the follow- ing places :—

(1) Maternity Hospital, Rottenrow.

(2) Nurses' Training Home, Govan.

(3) At such of the Infant Consultations or Tuberculosis Dispensaries as may be found necessary.

NOTE.—The directors of the Maternity Hospital will supply the medical and nursing staff for their own dispensary.

The dispensary at the Nurses' Training Home, Govan, will be attended by the medical and nursing staff of the Corporation.

All cases requiring institution indoor treatment will be referred to the Maternity Hospital Dispensary.

B. Ante-natal Ward—

The directors of the Maternity Hospital will open a ward for the indoor treatment of ante-natal conditions, and the Corporation will contribute towards the cost of maintenance the sum of £1,000 per annum.

I. HEALTH OF EXPECTANT AND NURSING MOTHERS (*continued*).

Already in operation under the Local Authority Scheme.

C. *Home Visitation*—

No special provision.

Incidental to the attendance of infants at the Consultations, and of nurslings at their own homes by the Nursing Staff of the Department or the Visitors of the G.I.H.V.A., much visitation is conducted, but it has not had special reference to the health of the mother unless this was reflected on the condition of the infant.

D. *Attendance during Confinement*—

No provision.

Annual grant to Maternity Hospital, £100.

Proposed Extensions and Additions.

C. *Home Visitation*—

See above, paragraph "Home visitation." It is not proposed at present to organise home medical attendance, but to "feel outwards" from the Ante-natal Dispensaries and Infant Consultations in directions where this may be most needed, and to ascertain how it can best be provided. A rearrangement of the method by which maternity benefit is administered might be utilised to the advantage of the mother by bringing her into touch with medical advice before her confinement.

D. *Attendance during Confinement*—

Provision for this already exists at the Indoor and Outdoor Clinics of the Maternity Hospital and Nurses' Training Home, Govan, and it is not at the moment proposed to make any addition to this until it is ascertained whether any extension is necessary, and the effect of the Midwives Act has been disclosed.

II. HEALTH OF CHILDREN UNDER 5 YEARS OF AGE.

E. *Dispensaries — Infant Consultations*—

Medical consultations for infants were begun in 1908, and now number 14, located throughout the city. One consultation per week is held in each.

The city is mapped out into

E. *Dispensaries*—

(1) The present consultations for infants will be continued, and their work extended, if, and as, required, to include children up to 5 years.

It is proposed, also, that they should to some extent take on

II. HEALTH OF CHILDREN UNDER 5 YEARS OF AGE (*continued*).*Already in operation under the Local Authority Scheme.*

14 districts, corresponding to the areas in which the infant consultations are held, and 10 nurses are distributed among them.

Home Visitation—

Connected with this work there is a Voluntary Visitors' Association, numbering about 400. Executive units of the Association are formed for the several wards, and the annual number of babies visited by them averages 3,000. They work in close association with the medical and nursing staff.

Home visiting is not continued after the child is 1 year old, and in many cases is stopped before that age. During 1915 the total number of births not attended by doctors in practice was 16,700, and during that year the total visits made by the nurses were 44,101.

The several portions of the work may be grouped in the following manner :—

I. Registration of Births and Notification of Births Act—

- (a) Clerk's salary.
- (b) Cost of Registrar's Return.
- (c) Other incidental expenditure.

II. Infant consultations and visiting—

- (a) Medical staff (2).
- (b) Nursing staff (10).
- (c) Clerical staff (7).

Proposed Extensions and Additions.

the function of dispensaries for treatment.

One of the Consultations has been transferred to the Adelphi Street Crèche of the Glasgow Day Nurseries Association.

(2) The directors of the Royal Hospital for Sick Children will institute special consultations for infants at their dispensary in West Graham Street.

(3) Subject to financial assistance for such an annexe, the Elder Hospital, Govan, will open a Clinic or Consultation Centre for children under 5 years.

(4) The directors of the Maternity Hospital will open a dispensary at Rottenrow, primarily for the infants born under their Indoor and Outdoor Clinics.

(5) Every child not medically attended at birth should be visited periodically—at least six times—during the first year. Thereafter the child should be visited at least four times annually until it is 5 years old.

To accomplish this, the following additions to the staff are proposed :—

- (a) Extension of visiting work by addition of 10 nurses ;
- (b) Additional services, clerks, and material, &c.
- (6) It is proposed to extend the Register of Births to include

II. HEALTH OF CHILDREN UNDER 5 YEARS OF AGE (*continued*).*Already in operation under the Local Authority Scheme.*

- (d) Other incidental expenditure.

III. Ophthalmia Neonatorum—

- (a) Number of cases notified in 1915—473 (less 44 not ophthalmia), . . . 439
- (b) Number treated in Baird Street, . . . 98
- (c) Number treated at own homes by nurses and doctors, . . . 279
- (d) Number treated in Maternity Hospital, . . . 5
- (e) Number treated in Eye Infirmary, . . . 2
- (f) Number treated by private doctors, . . . 43
- (g) Removed and not found, 2

IV. Venereal Disease—

Cost of treatment of cases in Baird Street—

- (a) Number of cases treated (1915), . . . 40
- (b) Number of those under 5 years, . . . 29

F. *Hospital Accommodation*—

None for nurslings as such, but, apart from provision for the usual infectious diseases of childhood, the Corporation have beds for ophthalmia neonatorum at Baird Street, and also for a certain number of children suffering from venereal diseases. (See also under "E.")

Grant to Sick Children's Hospital.

Proposed Extensions and Additions.

information obtained during the first five years of life.

F.—The Corporation propose to erect an annexe to the hospital, on the grounds of the Royal Hospital for Sick Children at Yorkhill, for 25 beds for nurslings only (breast or artificially fed), and assist in equipping a food laboratory in rooms already provided at the hospital, but not furnished. The medical and nursing attendance will be provided by the directors of the Hospital.

II. HEALTH OF CHILDREN UNDER 5 YEARS OF AGE (*continued*).

*Already in operation under the
Local Authority Scheme.*

*Proposed Extensions and
Additions.*

- (1) Cost of erection of ward.
- (2) Contribution towards equipping laboratory.
- (3) Cost of maintenance of added beds.

G. *Crèches*—

None owned by Corporation, but an annual contribution of £50 is made by them to the Glasgow Day Nurseries Association, which conducts six day nurseries for the children of working mothers at selected parts of the city.

G. *Crèches*—

(1) The Nursery at Adelphi Street, conducted by the Glasgow Day Nurseries Association, required reconstruction during 1915, and by arrangement provision was made for transferring one of the Infant Consultations to them. A contribution will be made to the cost of reconstruction.

(2) Pending the provision of the Welfare Centres outlined on page 324, the committee hope to be able to move in the direction of providing an open-air crèche in one of the parks.

H. *Schools for Mothers*—

(1) None—save occasional addresses to mothers by medical staff.

(2) For several winters before the war a course of lectures to the visitors of the G.I.H.V.A. was arranged, and well attended.

H. *Schools for Mothers*—

It is proposed to expand the courses of instruction in questions affecting the health of mothers and infants when the medical staff has regained its elasticity.

I. *Dinners to Expectant and Nursing Mothers*—

An annual grant is at present given to the Cowcaddens Dinner Table for Nursing Mothers for this purpose.

ACUTE CYSTITIS: A WORD TO THE PRACTITIONER.*

By A. GALBRAITH FAULDS, M.B., C.M., F.R.F.P.S.G.,
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I THINK all of us now and then suffer from some form of slight ailment which, for the time, causes us considerable annoyance, and renders us somewhat unfit or disinclined for our work, besides making us irritable and miserable. To one it may be headaches; to another it comes as a bilious turn or lumbago, that most commanding of all discomforts, or some other thing, and we at once put it down to a form of indiscretion either of diet, work, or over-indulgence. We never think what a blessing it is that nature indicates to us in this way that we are overburdening either our strength, our stomach, liver, or brain; or are careless in dress or neglecting nature's calls. These slight ailments are nature's warnings that we must stop doing this or that, and some of these warnings are most unpleasant. We all know that the most serious diseases are those that begin without any warnings, and go on gradually from day to day without affecting to any extent our comfort, and only culminate in some alarming sign or symptom which reveals the awful truth when things are pretty much out of hand and irredeemable. The man who neglects these timely warnings is sure to come to grief. One of my best friends, one all of you know, a man with an immense practice, in spite of constant warnings, neglected them for his patients, and suffered, in the prime of life, the extreme penalty, causing the life-long regret, not only of his wife and family, but also of a wide circle of admiring friends.

“Better to hunt in fields for health unbought
Than fee the doctor for a nauseous draught.
The wise, for cure, on exercise depend;
God never made his work for man to mend.”

* The contents of a Post-Graduate Lecture.

But we are all human and occasionally guilty of some unintentional indiscretion in gratifying our desire for pleasure. We observe these social delinquencies in our friends much more than in our own case. You have just to think of any friend, name him to yourself, and immediately, if you are in a critical mood, you say of him: "Oh yes, he smokes too much," or "He does himself pretty well at dinner. That is why he looks pale," or "too flushed," or "limps with gout," or "occasionally suffers from lumbago," or some other easily recognised but irritating small ailment. I have no doubt he could say the same of you or me, for we all descend from Adam, and occasionally gratify our desires much against our better wisdom, and are annoyed at nature's reprimand in the shape of an attack of diarrhœa or inflammation of the bladder or such like discomfort.

Some years ago I published in the *Glasgow Medical Journal* an article on "Diabetes and its treatment by the infusion of eucalyptus leaves." To my great astonishment one of the best known London physicians wrote to me asking for more particulars, and offering to come to me and be treated for diabetes. I remember well how surprised I felt when I thought of this great physician, who had himself treated many ladies for the same disease, himself seeking relief and comfort from me who did not pose as a specialist on diabetes at all. I wrote to him giving him every detail of the treatment, and said to him that he could very well try the cure where he was; that it was not a certain cure for all forms of diabetes. Truth to tell I was uneasy about having such a distinguished man under my care, one who had been treated by a very celebrated diabetic specialist. I unfortunately put one sentence in my letter which decided the matter. That sentence was that the only possible difference in the cure being conducted in London and Glasgow was that the water for making the infusion of eucalyptus leaves in Glasgow was the best and the purest in the country. It was this boast of our Loch Katrine supply that brought my illustrious patient to Glasgow on what I thought was a forlorn hope of doing him any good. He came, however, and went into a nursing home, and in a day or two I found not only had he diabetes but also recurrent attacks of cystitis. This combination is a very unfortunate one. There is a golden rule in medical science which all practitioners should remember

—in a combination of diseases always attack the one that has the more acute symptoms. So I left the diabetes very much to take care of itself, and first attacked his inflammation of the bladder, and, to my astonishment, the glycosuria vanished with the disappearance of the cystitis. I found that my patient, who was a comparatively old man, believed that after a hard day's work involving a great deal of mental activity he had to eat plenty to replenish his waste energies, and, although he did not take vast meals, he certainly indulged in the richest of food and the choicest of wines and a good cigar. I am not going to review here his menu, but, were I to do so, I am confident you would say that if he had not diabetes he ought to have it.

Now I think we all very much believe the same thing, that after a hard day's work we need more nutrition and indulge accordingly. I myself think this, and I know many of my compeers do the same; but we are wrong, for, if we left nature to replenish the waste from the ordinary meals of our usual diet, we would be happier and healthier men. My medical patient, however, was not put on a diabetic diet. After I heard what he was in the habit of eating and drinking, all of which he assured me was quite compatible with the treatment of diabetes, he was simply put on no diet at all. His urine contained other pathological elements besides sugar which caused his cystitis, and he was for the first few days put on "bonne eau du Lac Katrine" with the most marvellous results.

"The cures of to-day are old by the morrow;
Still humanity suffers its pain and its sorrow."

I can never forget the first meal my patient got commensurate with his age. It contained a little roast beef, on which, like a true Englishman, he

"Sighed and looked, and sighed again."

Now this patient had cystitis and diabetes, and if the diabetic specialist had done what I did, put him to bed and fed him on water to cleanse his blood of uric acid, and corrected his ideas of the necessities of life, he would have had the same results as I had. It is interesting to note that years afterwards I had a letter from the patient in which he expressed the

opinion that after a hard day's wear and tear he found a very small meal and a draught of cold weak tea with a little lemon in it far more refreshing and comforting than his former sumptuous repast.

But we are here to consider acute inflammation of the bladder, which I always treat at first as a slight ailment, and the study of this disease is extremely interesting.

It must have been the experience of most general practitioners to have come across cases of cystitis which have surprised them either in their obscure origin, their remarkable acuteness, or their inexplicable intractability. The object of this paper is to offer to those who are in difficulties with such cases the experience of one who has laboured twenty years among such diseases, both in hospital and private practice, and to give the results of his labours, together with his views on some of the problems that have faced him during that time.

Acute cystitis is a sudden inflammation of the mucous membrane of the bladder. This membrane becomes swollen and red with the increased supply of blood. The inflammatory process extends to the basement membrane, and the organ, being a contractile one, and disturbed by the inflammatory process, contracts to expel its contents. This gives temporary relief, but soon the desire to empty itself again becomes urgent, and thus the demand to pass urine, with the pain occasioned by the grasping of the muscular walls on the inflamed lining of the bladder, reveals to the patient the necessity of seeking medical advice. All this may occur within an hour or two. An inflammation like this, if allowed to remain, soon extends to deeper tissues, involving other layers of the bladder, and in time will become sub-acute or chronic. As a general rule these cases of acute cystitis in otherwise healthy people mean that there has occurred a sudden change in the character of the urine. It may suddenly become alkaline and precipitate phosphates, or very acid from excess of uric acid, and these conditions irritate the mucous membrane of the bladder, producing acute cystitis with all its painful and annoying demands. These conditions may also occur in children, and we will see later how they are so frequently met with in early life.

Acute cystitis is recognised by three symptoms that are present, more or less, at the same time—

1. Frequent micturition.
2. Painful micturition.
3. Pyuria.

A common error is to think, because a person micturates more frequently than usual, that he suffers from cystitis. In this country people generally have four calls for that purpose in the twenty-four hours, but there are many circumstances that may increase this number without indicating an unhealthy condition. Besides, frequent micturition occurs as the result of colds, disorders of digestion, worms, excitement, and many other conditions, without the patient having cystitis.

Dysuria, again, is a symptom that can exist without cystitis. It is seen in patients suffering from hæmorrhoids, fistula in ano, or any inflammatory condition of the ischiorectal fossa or rectum. I have seen a patient suffering from dysuria, and, on being treated for rheumatism, the pain in passing water disappeared. The pain from cystitis is not limited to the bladder. You have tenderness in the perineum and hypogastrium. We know that the upper lumbar spinal nerves send their branches to the hypogastric region, and the sacral branches go to the perineum and penis. In cystitis these are the areas to which the patient refers the pain.

Pyuria may not be very well pronounced in the early moments of acute cystitis, but, as the inflammation continues, the muco-pus quickly appears and increases. Every normal urine has mucus in it, as it is the normal and healthy secretion of the bladder, but as soon as that viscus shows the least signs of inflammation the mucus rapidly increases, together with globules of pus and micro-organisms.

Besides the above three symptoms, there are other manifestations of the discomforts which cystitis produces. The acts of urination become still more frequent, and the bladder makes spasmodic contractions to void urine, known as strangury. With strangury the urine generally contains blood and pus, and febrile symptoms set in from the acute inflammation of the bladder.

The presence of bacteria in the urine and the part played by them in the production of cystitis has been the subject of

much discussion. It is held by some that in acute cystitis bacteria are always found, but it has been my experience in the early stages, in those cases caused by alteration of the character of the urine due to gastric derangements, to find no germs, although they very rapidly appear. The bacteria present are commonly the bacillus coli, staphylococci, especially the staphylococcus aureus, which together with the diplococcus ureæ liquefaciens has the power of breaking up the urea and converting it into ammonia carbonate, thus rendering the urine alkaline, and adding to the irritation of the bladder. Regarding the relationship between bacteria in the urine and cystitis there are three important facts which must be borne in mind—

1. Pyogenic bacteria may be present in urine without causing cystitis.

2. Pyogenic bacteria may often be the cause of cystitis.

3. That the route by which some forms of pyogenic bacteria invade the bladder is an unsolved problem.

To prove that bacteria can be present in urine without causing cystitis, one has only to look at the urine which comes from patients suffering from some kidney affections. Patients are met with who for long periods have suffered from tuberculous kidney, and who daily pass large quantities of pus in their urine, containing staphylococci and tubercular bacilli, without these infecting the mucous membrane of the bladder. Again, I have found, like others, various organisms such as pneumococcus, diphtheria, and typhoid bacilli, and the bacillus coli in the urine of patients recovering from pneumonia, diphtheria, typhoid, and appendicular abscess without any appearance of cystitis. The organisms in these cases seem to be inactive, yet cultures can be procured from them. They are filtered from the blood through the Malpighian bodies. Although these micro-organisms can for long periods infest the urine without infecting the bladder wall, there are conditions which we are unaware of that predispose to their attacking the mucous membrane and producing cystitis. I might here state that one of my colleagues informed me that he once saw at a *post-mortem* examination the whole genito-urinary tract infected by the diphtheria bacillus in the body of one who had succumbed to laryngeal diphtheria.

Then renal calculi when they reach the bladder cause cystitis, and I have found them bring with them bacteria, which I maintain are the original cause of the concretions, and this I hope to prove in the near future. They infect the bladder when they enter, both with bacillus coli or coliform bacteria and staphylococci. I do not mean to aver that their presence is the sole cause of the cystitis which follows their entrance into the bladder, and not the presence of the stone. Given time any foreign body—nay, even small innocent tumours—will cause cystitis from their mere presence. The route by which bacteria can gain access to the bladder, otherwise than through the urethra or ureters, is still obscure. The bacillus coli is the common micro-organism found in bladder inflammation, and in the female it can gain easy access to the bladder by the urethra by rapid contiguous growth, but in the male this does not hold good. Let me recall to you an incident which occurred some time ago to me, and which surprised me by the unsuspected circumstances which led to the bacillus coli gaining entrance to the bladder and setting up acute cystitis. I was asked to see a lady by her brother (a physician), who suspected his sister of suffering from calculus, owing to the occasional sharp attacks of acute cystitis. His object in asking me to examine the patient was to have her bladder searched by the cystoscope. This I did, and found no stone, for it was evident from the very simple facts of the case that the sufferer was afflicted by several irregular attacks of acute cystitis due to some infection from without. The cystoscopic examination showed an inflamed bladder, particularly round the mouth of the urethral opening which was redder, more infected, and contained a faint scum-like mucus. She also suffered from vulvitis and urethritis. Cultures taken from these parts proved it to be chiefly a bacillus coli infection. Now, the patient was otherwise a very healthy woman, and why she should suffer from acute cystitis at irregular intervals, and particularly at non-menstrual intervals, was difficult to discover. I found out, however, that all her attacks had been preceded by diarrhoea, and that as sure as her stools became loose and watery the symptoms of urinary distress followed, and, further, that dysuria preceded frequency of micturition. The other symptoms of cystitis then followed

with all their annoyance and inconvenience. I also found from her brother that after checking the diarrhoea with the free use of soda water and a little alcohol therein, the cystitis vanished. By careful attention to cleanliness all further attacks were avoided.

Direct infection from fæces is a condition frequently seen in young girls, and every surgeon who has had dispensary experience at a general hospital will corroborate me in saying that frequently a mother brings her daughter to the dispensary to have her examined, as she suffers from an acute vulvitis and cystitis, on the supposition that the patient had been the victim of foul treatment by some male. These cases I have found to be just the result of direct infection from the bowel, either by the act of, or the want of, wiping after defæcation. I am satisfied, therefore, that in a great many cases of bacillus coli infection in the bladder, this is one of the common routes in the female.

But in the male this route does not hold good except in the case of gonorrhœal urethritis. I think it can be considered a most unusual and a very rare one by which the bacillus coli gets to the bladder. Take, for instance, what I have, like many other surgeons, seen in a boy brought with cystitis for an opinion as to the cause. The mother's chief complaint is the enuresis, the child's complaint the cystitis. Having excluded tubercle bacilli from the possible causes, you find bacillus coli in abundance. It is extremely common to find, in the winter months especially, when children are confined to the nursery and cannot get out to enjoy freedom in fresh air and light, that their digestion suffers, and, although they eat plenty (too much under the circumstances), they look white and pasty, and their urine is loaded with either phosphates or urates. The bacterial examination of the urine shows abundance of bacillus coli, alone or with diplococcus ureæ liquefaciens. Give these children a smart purge, and keep them for a day on weak tea sweetened with saccharine and just a little milk in it, sufficient only to colour the tea, and the condition and the bacteria disappear like magic.

It is an interesting thing that all cases of cystitis, whether acute or chronic, have an altered urine, that there are always bacteria present in it, and the one variety that I should say is

common to all such urines is the bacillus coli in some of its forms. But the bacillus coli is an organism that is found in most out of the way places. It gets the blame of being the cause of many pyogenic conditions, but whether they are the cause or the result of disease I am not at this moment going to discuss. The question here is—How does the bacillus coli get into the bladder?

We know that the lymphatics of the bladder are spread over its serous surface, pervade the entire organ and collect themselves on the posterior wall, and passing through glands they join those of the prostate outside the perineum and enter those of the iliac region. Those of the rectum, which are in close relationship, pass into the sacral glands and then join the lymphatics from the bladder.

That there may be an infection of the interior of the bladder by this route is possible, but I have never been able to bring my mind to think that it is likely, unless there is a pathological condition of some of the pelvic viscera. In spinal injuries where there is an acute cystitis I have found no bacillus coli in the lymphatics of the bladder, although they abounded in the urine. Again, I have frequently found, when operating in cases of suppurative pelvic cellulitis, the bladder wall to be covered with pus teeming with staphylococci and coli bacilli, and the patient had no cystitis and no alteration in the urine.

Now, how do these germs come to be in the urine? In the cases of cystitis caused by sudden alkalinity or hyper-acidity of the urine due to gastric derangement in old or young, the urine flows into the bladder void of bacteria, as I have found from examination of it when drawn from catheterised ureters, so that the bacterial contamination must take place within, or through, the walls of the bladder. Experiments show that they do not descend from the kidney, nor do they gain access *per urethram*. It has been said that they come through the lymphatics of the bladder. As I have already said, this is a channel I think most unlikely where there is no pathological condition. From experiments I have made in producing cystitis in animals whose urines were free from bacteria an hour before, and examining sections of their bladders at various times after the production of inflammation, I came to the conclusion that bacillus coli appeared in the mucous membrane

before it appeared within the walls of lymphatics. Although I never was able to demonstrate beyond doubt that they pass through the walls of the capillaries, or even that they were seen inside the capillary wall, they can be seen in the mucous membrane in the region of the finer capillaries, making the presumption highly probable that these micro-organisms were conveyed by the blood-stream. In chronic cystitis, when I have succeeded in staining the lymphatic fluid coming from the the bladder, staphylococci were usually recognised. This is too great a subject to discuss here, but I am of the opinion that direct infections are undoubtedly pyogenic and of hæmic origin, the presence of bacteria being mostly a secondary consideration; but until we know more of the circumstances that affect the virulence of these bacteria, no stable conclusions, or hard and fast rules, can be made with confidence.

As to the treatment of acute cystitis, let me begin by advising what should *not* be done. Never think of attempting to pass instruments even for the use of injecting solutions of cocaine. Do not make an exhaustive enquiry as to the cause before doing something for the relief of the urgent symptoms. There is no call for washing out the bladder. Very few patients suffering from cystitis, in its acute form, can stand even the sight of an instrument. Even supposing the use of a catheter or sound to be considered necessary, it should be done under a general anæsthetic, but it is seldom or never required. The use of cocaine solutions, no matter of what strength, in such cases is, in my opinion, dangerous. I have seen deaths occur by its injection into the inflamed bladder. Though the absorption of a normal bladder is a negligible quantity, it is otherwise when its mucous membrane is inflamed; and some people are highly susceptible to the effects of this alkaloid, even in infinitesimal quantities. Cocaine or any of its compounds has a paralytic action on the cardiac impulses, and sometimes produces a most alarming condition and one which cannot always be remedied. Besides there is no possible means that I know of recognising patients who are so susceptible to the effects of this drug.

I have said, do not waste time in making your diagnosis before relieving your patient's acute symptoms, for this is one disease you can greatly and quickly relieve by prompt

measures. You may complete your investigations and substantiate your diagnosis later with more certainty, and with greater comfort to your patients. Remembering the nerve distribution, a hot water enema and a poultice of linseed meal on the perineum and above the pubes, and a subcutaneous injection of morphia, will comfort your patient and make him smile upon you. You may now enquire as to the cause, finding out about his digestion, cold, gonorrhœa, &c., and procuring a sample of his urine to complete your investigation at your leisure. It is an excellent thing now to start your patient with a saline purge. I find Carlsbad, or Kruschen salts, given in large quantities of hot water, has an excellent effect, both from its depleting effect on the bowels and its diuretic action. You will not get children to swallow large draughts, so in their case you have to look for something more palatable and less bulky. I have always found a friend in compound senna mixture in the young, given in doses of a teaspoonful to a tablespoonful in double the quantity of hot water. This mixture is one that completely evacuates the whole alimentary tract; so that if the cystitis is due to alimentary disturbance, its action is certain to give rapid relief. If the urine, as it often does, remains alkaline, there is nothing more beneficial in rendering it acid than a draught of weak tea and keeping the patient on a light diet. Small doses of benzoic acid have the same effect, but I have found this drug to produce a dermatitis, and I only resort to it when tea fails. I also use in older subjects a small quantity of alcohol diluted in large quantities of aerated water. In acute cystitis due to gonorrhœal infection there is no treatment that can compare to a mixture of sanmetto and urotropine.

We shall see in our next lecture how chronic cystitis differs so vastly from acute, what a great variety there is in the causes of chronic inflammation of the bladder in the two sexes, and the great changes that have occurred nowadays in the treatment thereof.

(*To be continued.*)

Obituary.

ON SERVICE.

CAPTAIN JAMES ELLIOT BLACK, M.C., M.B., CH.B. GLASG.,
ROYAL ARMY MEDICAL CORPS.

WE regret to announce the death of Captain J. E. Black, R.A.M.C., who was killed in action on 19th April. The only son of the late Mr. A. E. Black, C.A., Glasgow, Captain Black studied medicine at Glasgow University, where he took the degrees of M.B., Ch.B. in 1911, settling afterwards in Westbourne Terrace. He performed distinguished service during the war, being mentioned in Sir John French's despatches of January, 1916, and receiving the Military Cross in November for gallantry in the field.

LIEUTENANT JAMES EWING, M.B., CH.B. GLASG.,
ROYAL ARMY MEDICAL CORPS.

WE regret to announce that it was intimated on 7th May that Lieutenant James Ewing, R.A.M.C., had died of wounds received on 12th April. The youngest son of Mr. Duncan Ewing of Laggan, Crieff, he received his scholastic education at Morrison's Academy, Crieff, and afterwards studied for the medical profession at Glasgow University, where he took the degrees of M.B., Ch.B. in July, 1916. Mr. Ewing, who was 24 years of age, acted for some time as house surgeon in the Royal Infirmary, Perth, and afterwards in Glasgow Royal Infirmary, where his work gave indications of much promise for his future career. He left for foreign service in the autumn of 1916.

WILLIAM FINDLAY, M.D. GLASG.,
EAST KILBRIDE.

By the death of Dr. William Findlay Glasgow has lost one who until some ten years ago, when he retired from practice, was among the most prominent of her medical men, and whose literary pursuits made him known far beyond the limits of the medical profession. Dr. Findlay, who was born in 1846, was a native of Kilmarnock, and received his early education at Kilmarnock Academy, whence he came to Glasgow for the study of medicine, entering the old College in 1866, and coming as a student under the influence of Lister, then engaged upon the first developments of antiseptic surgery, to the principles of which the surgical conditions of the present war would seem to have evoked a widespread return. He took the degrees of M.B., C.M. in 1870, and at an interval of eight years the degree of M.D. Establishing himself in practice in Dennistoun after his graduation, he soon made his mark there, and, with the growth of its community from the comparatively small numbers among whom he first settled, he found himself the centre of a large and growing practice. To his patients, drawn from all classes of society, he commended himself not only for his professional skill, not only for the breadth of his sympathy and the keenness of his judgment, or for the width of his intellectual outlook, but for his eager and practical interest in all the medical problems of an ever more densely aggregating population. The control of tuberculosis was a constant subject of his thought and care, and it was he who introduced the discussion of its compulsory notification at a meeting of the Eastern Medical Society, of which for a time he was president, in a helpful paper afterwards published in the pages of this *Journal*. In this *Journal*, indeed, appeared most of his medical papers, and these, as might be expected from the bias of his mind, dealt largely with the literary or historical associations of medicine. Among them were "Our Motto—ΥΠΗΡΕΤΑΙ ΦΥΣΕΩΣ" (1897); "Glasgow Royal Infirmary—the Birthplace of Aseptic Surgery: a Kirkyard Eclogue" (1900); "What to do with the Consumptive Poor: a Plea for Compulsory Notification," (1903); and "Shakespeare's Doctors" (1909).

But great as was his preoccupation with his profession, and unremitting as was the care he devoted to his patients, it was to the fields of general literature that he turned for the complete expression of his ever active mind. Beyond his personal friends, few among the wide circle of his general readers knew that "George UMBER," whose frequent contributions to the *Kilmarnock Standard* were eagerly looked for by so many, and whose books—*Ayrshire Idylls*, *In My City Garden*, and the *Satire on Noah's Epistles*—charmed so many more, was Findlay of Dennistoun. In these, as in his other volumes—*Robert Burns and the Medical Profession*, *Carmina Medici*, &c., and the *History of Kilmarnock* by his uncle, Archibald Mackay, which he brought up to date—he showed high qualities both in prose and verse. In both modes of expression his work was a true reflection of his nature, manifesting the shrewdness and kindliness of his judgment of life, his quick sense both of beauty and of pathos, an ever ready humour, and throughout all vicissitudes an upright and a steadfast mind. His membership of the Glasgow Ballad Club was an expression of the admiration in which his verse was held by the brother poets of that jealously guarded circle; and those who knew him there, like all who knew him, will not soon forget the charm of his walk and conversation.

Forced by impaired health to abandon his practice, Dr. Findlay spent the last ten years of his life at Lyttle Park, East Kilbride, where he was still able at intervals to devote himself to literary pursuits, and where he died on 11th May. He is survived by his wife and five sons and two daughters. Of his sons, Dr. J. W. Findlay, who predeceased him, is still regretfully remembered by his medical colleagues; Dr. Leonard Findlay, physician to the Sick Children's Hospital, has also followed his father's profession; and Mr. William Findlay is the well-known portrait painter.

CURRENT TOPICS.

GLASGOW UNIVERSITY PRIZES.—At the graduation ceremony held on 24th April, when the University and special class prizes were also distributed, the Bellahouston Gold Medal for eminent merit in the thesis for M.D. was awarded to Thomas Walmsley, M.D.Glasg. (M.B., 1912), and the Arnott Prize of £25 for examination in Physiological Physics to John Kirk, M.A., B.Sc.

TRIPLE QUALIFICATION: DIPLOMA IN PUBLIC HEALTH.—At the recent examinations held in Edinburgh for the above diploma, the following candidates, having passed the second and final examination, obtained the Diploma in Public Health of the Royal College of Physicians of Edinburgh, Royal College of Surgeons of Edinburgh, and Royal Faculty of Physicians and Surgeons of Glasgow:—Gladys Ward, M.B., Ch.B., and Ella Elphinston, M.B., Ch.B.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—At a meeting of the College held on 15th May, the following gentlemen, having passed the requisite examinations, were admitted Fellows:—M. A. McCarthy, L.R.C.S.E. (Triple); H. E. Allanson, M.B., Ch.B., M.D.Manc.; J. H. Cobb, M.B., Ch.B.Sheff., M.B., B.S.Lond.; G. W. Gower, M.B., Ch.B.New Zeal.; E. R. Holborow, M.B., B.S.Lond.; H. J. McCaw, M.B., Ch.B.Edin.; F. A. St John, M.D., C.M.Manitoba.

BEQUESTS TO MEDICAL CHARITIES.—By the will of the late Mr. Thomas Wharrie, of 10 Eton Avenue, Hampstead, London, a director of the British Mutual Banking Company, Limited, and of the Prudential Assurance Company, and formerly head of Messrs. Wharrie & Colledge, civil engineers and land surveyors, 100 Bath Street, Glasgow, the sum of £1,000 has been bequeathed to each of the following institutions:—Glasgow Royal Infirmary; the Western Infirmary, Glasgow; the East

Park Home for Infirm Children, Glasgow; and the Higginbotham Sick Poor Nursing Association, Glasgow.

APPOINTMENTS.—The following appointments have recently been made:—

Jean M. Morton, M.B., Ch.B.Ed., to be assistant to the Medical Officer of Health for Greenock under the Corporation's maternity and child welfare scheme.

May I. T. Reid, M.B., Ch.B.Glasg. (1917), to be Assistant Bacteriologist to the Glasgow Corporation.

Royal Army Medical Corps (28th April): To be temporary Lieutenants—W. H. Howat, M.B., Ch.B.Glasg. (1915); A. H. Sinclair, M.B., Ch.B.Glasg. (1911); W. M. Brown, M.B., Ch.B. Glasg. (1901); A. G. Gilchrist, M.B., Ch.B.Glasg. (1909); G. H. G. Davie, M.B., Ch.B.Glasg. (1901); C. H. Haddow, M.B., Ch.B. Glasg. (1911); W. B. Douglas-Drummond, M.B., Ch.B.Glasg. (1912).

5th May: Temporary Lieutenants to be temporary Captains—H. E. Whittingham, M.B., Ch.B.Glasg. (1910); Daniel Morrison, M.B., Ch.B.Glasg. (1900); J. A. H. Telfer, M.B., Ch.B.Glasg. (1911); T. P. Hutchison, M.B., Ch.B.Glasg. (1915); E. J. Dyke, M.B., Ch.B.Glasg. (1905); A. M. Bayne, M.B., Ch.B.Glasg. (1909); W. S. Allan, M.B., Ch.B.Glasg. (1905); H. C. Davies, M.B., Ch.B. Glasg. (1903); G. J. Mc'Gorty, M.C., M.B., Ch.B.Glasg. (1915); F. R. Wilson, M.B., Ch.B.Glasg. (1907).

16th May: To be temporary Lieutenants—P. M. Reid, M.B., Ch.B.Glasg. (1901); P. A. Mitchell, M.B., Ch.B.Glasg. (1898); J. W. Johnstone, M.B., C.M.Glasg. (1898); Donald Mackinnon, M.B., Ch.B.Glasg. (1910); R. C. Muir, M.B., Ch.B.Glasg. (1907); R. F. Ballantyne, M.B., Ch.B.Glasg. (1898).

19th May: To be temporary Captain—Temporary Lieutenant D. H. Coats, M.B., Ch.B.Glasg. (1916). To be Lieutenants (from Glasgow University Contingent O.T.C.)—F. W. Hebblethwaite, M.B., Ch.B.Glasg. (1917); H. F. Hollis, M.B., Ch.B.Glasg. (1917); C. L. Somerville, M.B., Ch.B.Glasg. (1917); J. W. W. Baillie, M.B., Ch.B.Glasg. (1917); A. M. Blackwood, M.B., Ch.B.Glasg. (1917); J. M. Clark, M.B., Ch.B.Glasg. (1917); Andrew Dick, M.B., Ch.B.Glasg. (1917); J. R. R. Holms, M.B., Ch.B.Glasg. (1917); W. H. Kerr, M.B., Ch.B.Glasg. (1917); James Liddell,

M.B., Ch.B.Glasg. (1917); F. C. Logan, M.B., Ch.B.Glasg. (1917); Kenneth M'Alpine, M.B., Ch.B.Glasg. (1917); A. D. C. M'Gowan, M.B., Ch.B.Glasg. (1917); D. W. M. MacKenzie, M.B., Ch.B.Glasg. (1917); W. D. Miller, M.B., Ch.B.Glasg. (1917); W. H. Palmer, M.B., Ch.B.Glasg. (1917); J. W. Patterson, M.B., Ch.B.Glasg. (1917); H. B. Sergeant, M.B., Ch.B.Glasg. (1917); A. W. Smith, M.B., Ch.B.Glasg. (1917); Robert Wiggins, M.B., Ch.B.Glasg. (1917).

R.A.M.C., Territorial Force (27th April): Captain (temporary Major) J. W. Leitch, M.B., Ch.B.Glasg. (1898), to be acting Lieutenant-Colonel whilst commanding a Field Ambulance.

15th May: Lieutenant A. G. Banks, M.D.Glasg. (M.B., 1902), F.R.C.S.Ed., to be Captain.

WAR HONOURS FOR GLASGOW GRADUATES.—In a supplement to the *London Gazette* issued on 17th April it is announced that His Majesty the King has been graciously pleased to confer the Military Cross on Captain Thomas M'Cosh, M.B., Ch.B.Glasg. (1905), R.A.M.C., attached Welsh Rifles, "for conspicuous gallantry when his aid post was subjected to heavy shell fire for over three hours. He, with absolute disregard for his own personal safety, set a splendid example of courage and devotion to duty." As the obituary notice in our last issue intimated, Captain M'Cosh's gallantry was too soon followed by his untimely death.

It was announced on 16th May that among the Russian decorations awarded in July, 1916, to the British Forces for distinguished services rendered during the course of the campaign, the Order of St. Anne, 2nd Class (with Swords), had been bestowed upon Lieutenant-Colonel and Brevet-Colonel John Macfarlane Sloan, D.S.O., M.B., Ch.B.Glasg. (1898), R.A.M.C. The previous services and distinctions of Colonel Sloan, a son of Dr. Samuel Sloan, have already been the subject of frequent reference in our pages.

CASUALTIES AMONG GLASGOW MEDICAL STUDENTS.—Within the last month two medical students of Glasgow University have lost their lives in their country's service, while three are wounded or missing.

Second Lieutenant William Anderson, Black Watch, whose

death from wounds was intimated on 27th April, was the eldest son of Ex-Bailie Anderson, Burnbank, and was 26 years of age. Prior to the war he was in his second year as a medical student at the University. This was the third time he had been wounded.

Second Lieutenant R. R. Boyd, Scottish Rifles, was the sixth son of Mr. James Boyd, Buckingham Street, Glasgow, and joined the Army in 1914, before which he was a medical student at the University. He received his commission a few months after he joined, was invalided home from France last summer, and returned in January, 1917. It was announced on 26th April that he had been wounded, and on 5th May that his wounds had proved fatal. He was only 20 years of age. A brother, Lieutenant R. M. Stewart Boyd, was killed in Gallipoli, and two other brothers are on active service.

Mr. W. B. Cramb, a third-year medical student of Glasgow University, was reported missing on 14th April, his machine having been observed well over the enemy lines under very heavy anti-aircraft fire. He was well known in motor circles and the Scottish six-days' trials, and when he went to France in September, 1914, with the first unit of the Scottish Branch of the British Red Cross, he was one of the pioneers of the motor ambulance for conveying wounded from the field, and submitted valuable suggestions for the designing of the present type of motor ambulance. In the following year he received a commission in the Argyll and Sutherland Highlanders, and in January, 1917, he was attached to the R.F.C. He is the son of Mr. David Cramb, of the Singer Manufacturing Co., and a nephew of the late Professor Cramb, author of *Germany and England*.

Captain Peter Lyle, Argyll and Sutherland Highlanders, reported on 8th May severely wounded in action, is the only son of Mrs. Lyle, Duchalis, Helensburgh, and before the war was a medical student in Glasgow University.

Second Lieutenant J. McDougall, Argyll and Sutherland Highlanders (attached Camerons), was wounded on 3rd May. He is the eldest son of Mr. W. L. McDougall, Garfield Avenue, Mossend, and before the war was a medical student of Glasgow University and a member of the University O.T.C. He received his training with the Officers' Cadet Battalion, Oxford.

Second Lieutenant C. G. G. Wilson, Scottish Rifles, killed in action at the age of 29, was the youngest son of the late Dr. W. A. Wilson, Greenock.

AFTER-TRAINING OF DEFECTIVE CHILDREN.—In a paper on "Vocational Training and After-Care of the Defective Child," contributed to the Scottish Branch of the National Special Schools Union by Mr. G. Arbuckle Brown, M.B., principal medical officer to the Govan Parish School Board, the author describes the results of special investigations respecting the conditions of the defective children as wage-earners after leaving school, and proceeds to show that much useful and valuable material is being wasted at present because of the want of organisation, supervision, and control. Many of our special school children recover from their physical defects, and are quite able to take their places alongside their normal fellows and become full wage-earners. Many others, however, are handicapped by physical and mental disabilities which are permanent, and prevent these children being employed because of the requirements of employers under the Insurance and Compensation Acts. When some of them do obtain employment they are, as a rule, only partially supporting themselves, and their wages are less than what might be obtained under a system of control. Here the greatest waste occurs, and little or no return is obtained for the money expended in the training of these children. In order to obtain the best possible return, Dr. Brown makes suggestions for the training of the defective children in selected cases in trade schools and after leaving school, and advocates the establishment of central workshops for these children. In this way the continued employment of the children in the trades in which they had been trained would be provided, and the best possible returns for their work would be likely to be secured.

The whole of the work of these suggested central workshops, whether day or residential in administration, would provide for the employment of the worst cases of physical defect, and could also ensure that the poor unfortunate "home-ridden" cases, for whom practically nothing is done at present, could be profitably employed. Such workshops should be under the care of organised after-care committees. The present demand

for facilities for the training of our unfortunate and brave soldiers who have been maimed and are now suffering from physical defects, such as blindness, loss of limbs, and other disabling infirmities, will no doubt result in the establishment of trade training centres. These centres could be utilised for the defective children who leave our schools and who are found capable of employment.

NATIONAL COUNCIL FOR COMBATING VENEREAL DISEASE: FORMATION OF GLASGOW BRANCH.—There was held in the City Chambers, Glasgow, on 6th May, a meeting of representatives of municipal, parish council, educational, religious, and other bodies to consider a proposal to form a branch of the National Council for Combating Venereal Disease. Councillor Dr. Edward McConnell presided, and among those present were Dr. A. K. Chalmers, Medical Officer of Health; Dr. Robert M. Buchanan, the Corporation Bacteriologist; and Chief Constable Stevenson.

The Chairman, in introducing the business, said that on the occasion of the visit of Sir Francis Champneys it was resolved that a local committee be formed for the purpose of disseminating information as to the Government's scheme for dealing with venereal diseases and for educating the public in sex hygiene generally, and that that committee should form a branch of the National Council. Among the objects of that Council were—(1) To provide accurate and enlightened information as to the prevalence of these diseases, and as to the necessity for early treatment; (2) to encourage and assist the dissemination of a sound knowledge of the physiological laws of life in order to raise the standard both of health and comfort; (3) to co-operate with existing associations, to seek their approval and support, and to give advice when desired; (4) to arrange, in connection with such organisations, for courses of lectures, and to supervise the preparation of suitable literature; and (5) to promote such legislative, social, and administrative reforms as were relevant to the foregoing aims and objects. What appealed most to the public was the wreckage of young life which took place through disease being transmitted from the parents, and it was also worth quoting a statement by the Commission that “a decrease

in the use of alcohol would be an important factor in diminishing the prevalence of venereal disease."

It was agreed to form a Glasgow and West of Scotland Branch of the National Council, and a provisional committee was appointed, with Dr. M'Connell as convener, to recommend lines of action.

ALL-BRITISH X-RAY APPARATUS.—We have received from the secretary of the British Electrical and Allied Manufacturers' Association the following communication, which we very gladly commend to the favourable consideration of our readers:—

KING'S HOUSE, KINGSWAY,
LONDON, W.C., 3rd May, 1917.

(To the Editors of the "*Glasgow Medical Journal*.")

DEAR SIRS,—I am desired to bring to your notice the fact that a Section of this Association has been formed enrolling British manufacturers of X-ray and electro-medical apparatus, with the object of improving the status and prospects of that industry by co-operation and research.

It is probably scarcely realised by the general public what a very important part is played in modern medical practice by X-ray and electrical methods. Every hospital of any size has now a more or less elaborately equipped department for such work, and thousands of medical practitioners throughout the Empire devote their entire energies to this class of diagnostic and curative work. The X-ray examination of those wounded in the war has become a matter of routine, such examinations being, in many cases, made actually on the field by the employment of a motor X-ray installation; while the subsequent treatment of convalescent soldiers by electrical methods is daily increasing in volume and importance.

Before the war the major part of the X-ray and electro-medical apparatus used in this country was made in Germany and other foreign countries. Since 1914, however, great strides have been made by individual British manufacturers, and it is hoped that the enrolment of its members as a Section of this Association will further help to place and maintain this important key industry in a position where it can supply not only the home trade, but the whole of the Empire. British manufacturers have been at a serious disadvantage owing to lack of co-operation by which to meet the keen competition which existed in the world market. The Section is one comprising practically

every manufacturing firm in the business in Great Britain; and its formation would seem, therefore, to offer a means whereby the manufacture of British electro-medical instruments may be systematised and fostered.

Already the Section has been able to co-operate with the Government in research work connected with the improvement of some essential instruments, and it is hoped that this will be only a preliminary to wider investigations.

The Section views most hopefully the future of the *X*-ray and electro-medical industry in this country, and earnestly invites the co-operation of medical men and hospitals with the object of supporting and strengthening the movement towards the exclusion of foreign-made apparatus. Any practical suggestions from *X*-ray workers will be most gratefully considered, the aim of the Section being to give such workers an entirely British service of everything required for their use.—Your obedient servant,

D. N. DUNLOP, *Secretary*.

RED CROSS SOCIETY: SCOTTISH BRANCH.—Since the beginning of the year the work of the Scottish Branch of the Red Cross Society has continued to extend, and to receive steady support from all quarters of the globe. Its first announcement for the year, in the beginning of January, concerned the arrival in Italy of the motor ambulances presented by the Branch to the first British ambulance unit with the Italian army. The cars, two in number, were purchased from funds provided by the Scottish miners, and were already at work within a mile of the Austrian lines under the supervision of Sir Alexander Ogston, K.C.V.O., who wrote that their services were much appreciated. Subscriptions intimated at this time included a sum of £1,000 from the Gretna Fund Committee entrusted with Christmas gifts to the wounded from Gretna Factory, to be devoted to the purchase of two motor ambulances; a sum of £4,000, being a further contribution from the Scottish coal workers; sums of £250 and £209, being part proceeds of Lockerbie free will offering sale, and the balance of the proceeds of Bridge of Weir Red Cross Fête respectively; a sum of £105 from St. Andrew's Society of Kobe, Japan; smaller sums from branches of the same Society at Rio de Janeiro and Rosario; and a further contribution of £100 from the Royal Caledonian Hunt.

The Headquarters Organising Clothing Committee intimated

that from 18th to 30th December 48 requisitions were despatched from the headquarters store, St. Andrew's Halls, Glasgow, containing 18,502 garments and articles. Sixteen of the requisitions were sent at the request of the Director-General of the Voluntary Organisations at the War Office to hospitals, casualty clearing stations, and field ambulances in France, and the remainder to military Red Cross and auxiliary hospitals in Scotland.

In the following week the subscriptions intimated included a further sum of £1,300 from the St. Andrew's Society of Shanghai, a sum of £250 from the proceeds of Lockerbie free will offering sale, and a further sum of £160 from the Scottish Bowling Association, representing contributions of £110 from Ferguslie Bowling Club and of £50 from Abercorn Bowling Club. A sum of £140 was also received from the proceeds of a bring and buy sale in the parish of Applegarth.

The annual meeting of the Dumbartonshire Branch of the British Red Cross Society was held in the County Buildings, Dumbarton, on 11th January, Sir Archibald Campbell presiding. The annual report stated that every organisation of the Branch had been actively engaged during the year. Auxiliary hospitals were being carried on at Dumbarton, Helensburgh, Gartshore, and Woodlands (Kilcreggan), and last year there had been added to the number Craigmaddie House, Milngavie, the gift of the proprietor, Mr. H. Arnold Wilson. Satisfaction was also expressed at the work of the county dépôt, under the guidance of Mrs. W. H. Kidston, where 1,879 garments had been received; and at the co-ordination of the county work parties under the leadership of Mrs. Paul, Kirkton. The Branch was again able to show a pleasing balance sheet.

Lady Inverclyde, the president, in the course of a short speech, referred in detail to the great work that was being carried out by the Scottish Red Cross Society. She recalled an occasion when Sir Edward Ward was unable to get comforts sent off to Mesopotamia until he asked the Red Cross in Scotland, when they were despatched within three days.

Colonel John M. Denny, V.D., submitted to the committee his report as County Director. He commended the service, most cheerfully given, of the Dumbartonshire V.A.D. members, and

also the assiduity of the medical profession. As for the hospitals, during the year Helensburgh had treated 265 patients, or 483 since opening. Woodlands had treated 265 since opening; Dumbarton, 361 for the year and 623 since opening; Gartshore, 398 for the year and 575 since opening; and Craigmaddie, 224 for the year. A list was given of members who had won their bars of recognition for hospital work, and Colonel Denny acknowledged the many acts of kindness of the citizens of the county. In no case, he said, had the Government been called upon to pay more than the ordinary capitation grant for the upkeep of the hospitals.

On 13th January two additional ambulance wagons were presented to the Branch by the Scottish Bowlers' Association.

It was mentioned in the course of the proceedings that a sum of about £10,000 had been contributed since May, 1915, in response to the appeal by the Scottish Bowlers' Association on behalf of war funds. Out of that sum 13 ambulance cars had been provided, and in addition hospital beds had been endowed and money gifted for other means of relieving soldiers and sailors who have suffered from the effects of the war. A tribute was paid to the liberality shown by Paisley, in which £3,000 had been raised, about £1,000 being contributed by the Anchor Club. Sir Hector Cameron, in accepting the two cars for the Red Cross, stated that of the 13 ambulance wagons presented by the Scottish Bowlers four were on duty at Rouen, one at Aberdeen, one at Dundee, three on the French front, two on the East Coast of Scotland working in connection with the Navy, and the remaining two were to be despatched immediately for service with the Belgian Army. Mr. H. Barclay stated that the satisfactory record attained by Paisley was largely due to the generosity of the thread workers.

Subscriptions intimated on 19th January included £700 from the Incorporated Corn Trade Association of Leith, and £100 from the proceeds of the sale of farm produce, Kintyre Agricultural Society.

On the following day the Headquarters Organising Clothing Committee announced that the numbers of garments received from Red Cross and war work parties from 1st to 11th January amounted to 15,252 articles, and that 17,827 were despatched in 38 requisitions during the same period to 17 hospitals in

Scotland, 2 to England, and 19 to France. The two last-mentioned were sent at the request of the Director-General of Voluntary Organisations at the War Office, London. The Committee thanked the women of Scotland for their response to the urgent weekly appeals for mufflers, helmets, and gloves. They were pledged to send to hospitals and casualty clearing stations in France each month for the Director-General of Voluntary Organisations 2,400 mufflers, 1,500 helmets, and 1,300 gloves, and the need was therefore as great as ever.

On 26th January it was intimated that recent subscriptions included a sum of £3,000 from the Scottish coal owners, and a sum of £3,000 from the Scottish coal workers for the provision of motor ambulances; a sum of £568 from farmers of the Stewartry of Kirkcudbright and others, being a share of the proceeds of the third free-gift sale held at Castle-Douglas on 18th December; a further sum of £271, 19s. from the County of Renfrew European War Relief Fund; £180 from the Caledonian Railway Shilling Fund; a further contribution of £200 had been received from the patrons of the Glasgow Coliseum on account of their second ambulance; and £100 from Lodge Pioneer, Iquique, Chili, No. 643.

During the week the Clothing Committee had despatched 12,033 garments and articles to home and foreign hospitals.

A free-gift sale of live stock and miscellaneous contributions was held in Glasgow Cattle Market on 26th January, and realised £1,597, making, with cash contributions in hand, a total of £2,797, 5s. 3d. The sale was organised by Glasgow live stock agents, pig salesmen, and horse auctioneers on behalf of the funds of the Scottish Meat and Allied Trades' Red Cross Appeal.

As the result of an appeal to prominent Greenock men and business firms, made by Mr. J. W. Crawford, solicitor, Greenock, it was announced on 29th January that in a very short time £1,500 had been collected to provide motor ambulances for the Scottish Red Cross at Rouen, that £900 had already been sent to the Branch for the purchase of two ambulances, and that among the most recent subscriptions was a sum of £450, the cost of a third ambulance, from the Scotch Wool and Hosiery Stores.

On 30th January abstracts of accounts of the auxiliary

hospitals at Lochinch and Glendarroch, Wigtownshire, were published, and showed in both instances a satisfactory balance. The former hospital had dealt with 205, and the latter with 272 soldier patients during the year.

On 31st January the second of two motor ambulance waggons presented by the home timber merchants of Scotland was formally handed over to the branch.

February opened with the announcement of further subscriptions, including a sum of £400 from St. Andrew's Society of the River Plate, Buenos Aires; a further sum of £407, 7s. 2d., received from the Clara Butt Rumford Fund in respect of Madame Clara Butt's Scottish concert tour; a sum of £222, 18s. 4d. from Mrs. Tulloch, being the proceeds of an "At Home" held in Trinidad, West Indies; a sum of £200, received from the Selkirk Branch; and a sum of £100 from the pupils of Whitehill School, Glasgow.

The Clothing Committee announced the receipt during the week of 11,179 garments and articles, and the despatch of 17,987 to 14 hospitals and casualty clearing stations in France, 1 ambulance train also in France, 1 hospital at Suez, and the remainder to hospitals in Scotland.

In the year's work of the Scottish Red Cross Central Store for Surgical Dressings, ending on 31st January, 647,619 bandages, dressings, &c., were issued to 160 hospitals and casualty clearing stations, some of which received weekly and some monthly consignments. These hospitals included hospitals in France, Belgium, Egypt, Salonica, India, Russia, Mesopotamia, Italy, and hospital ships.

Among subscriptions announced at this time was included a further sum of £8,000 from the Scottish coal owners and coal workers for the provision of motor ambulances.

On 9th February the Headquarters Organising Clothing Committee intimated that during the month of January 73,851 garments and accessory comforts were despatched by the Scottish Branch of the British Red Cross Society from the headquarters store at St. Andrew's Halls, Glasgow, and the three branch depôts at Edinburgh, Dundee, and Aberdeen, to hospitals in Scotland and abroad. In a letter received by the convener of the committee from Sir Edward Ward, the Director-General of Voluntary Organisations, Scotland House, New

Scotland Yard, London, it was stated:—"It would be desirable that any quantity of the various garments and articles which the Scottish Branch may decide to give for this purpose should be replaced during the next few weeks in order that you may hold a reasonable stock to meet the demands which I expect my department will have to make upon you as the spring advances." The committee appealed again, in view of the above statement, to all the Red Cross and war work parties in Scotland to do their utmost during the next two or three months to meet the needs of our sick and wounded sailors and soldiers.

Subscriptions intimated on 15th February included £520 from the Linlithgowshire Branch; £450, being a further sum collected in Greenock, per Mr. J. W. Crawford, to provide an ambulance; £400 from Mrs. Fullerton, Bridge of Weir, being the proceeds of a *matinée* held in Hengler's Circus on 5th December; and £150 from the Caithness Agricultural Society, being the amount allocated from a free-gift sale. A *matinée* held on 20th February in the Coliseum Music Hall, to aid the contributions to the sum of £50,000 aimed at by the Scottish Meat and Allied Trades Association, realised £258, 5s. 6d. for admission to the theatre and £130 by the sale of special programmes. Subscriptions of £574 from the St. Andrew's Society of Sumatra, £500 from the Shetland Red Cross Fund Committee, and £100 from a collection at Cockenzie for the upkeep of the two "Cockenzie Beds" at the Scottish Hospital at Rouen, were also intimated. An entertainment in the Pavilion at Johnstone realised £155, 12s. 6d. A free-gift sale at Duns on 22nd February, on behalf of the British Farmers' Red Cross Fund and Y.M.C.A. Fund, realised nearly £2,000 in donations and close on £3,300 in drawings. Three-fourths of this amount was allocated to Red Cross work.

On 23rd February the Matheran Auxiliary Hospital, at 27 Sherbrooke Avenue, Pollokshields, was opened in the presence of a large company. In the absence of Lord Provost Dunlop, a preliminary statement was made by Dr. Hedderwick, who said that Matheran House had been placed at the disposal of the Glasgow Branch of the British Red Cross Society by the trustees of the late Mr. Dunsmuir, and they were to have possession of it for the duration of the war, unless it was sold

before that time. There were 36 beds in the house, which would be presided over by Miss M'Gregor, matron, and the nursing would be done by the Voluntary Aid Detachment of the city. Dr. Hedderwick added that they were deeply indebted to the Equipment Committee, which was composed of Lady Lindsay, Lady Ure Primrose, Mrs. W. G. Montgomery, and Mrs. Parsons.

Lady Dunlop, in formally declaring the Hospital open, said that since the beginning of the war magnificent work had been done by the city of Glasgow in providing men, money, and munitions, and, she might add, hospitals. It seemed to her that it only needed to be realised that a hospital was required and it was forthcoming and equipped.

The Right Rev. Dr. Brown afterwards consecrated the Hospital with prayer.

It was announced on the same day that His Majesty the King had been graciously pleased to confer the Royal Red Cross Decoration on a number of ladies in recognition of their valuable services in connection with the war. Among the Glasgow ladies on whom the Royal Red Cross Decoration, 1st Class, was conferred was Mrs. Parsons, a daughter of the late Professor Sir Thomas M'Call Anderson, and the widow of Mr. C. C. S. Parsons. From the inception of the Voluntary Aid Detachments Mrs. Parsons has been prominently identified with that branch of the Red Cross operations. Before the war she held the position of commandant of the Glasgow II Detachment, which was the first to be raised in Scotland. Mrs. Parsons is vice-chairman of the Selection Board, and county director of the Glasgow Branch of the V.A.D. Mrs. J. R. Stevenson, matron of the Scottish National Red Cross Hospital at Bellahouston, who also received the 1st Class Decoration, was engaged in nursing under the Glasgow School Board before the war, and, prior to receiving her present appointment, was assistant matron, and afterwards matron, of Springburn Hospital. Two members of the Territorial Force Nursing Service—Miss E. E. Taylor, matron of Merryflatts Hospital, and Miss E. O. Thomson, matron of the 4th Scottish General Hospital at Stobhill—were also honoured with the Royal Red Cross Decoration, 1st Class.

Further subscriptions were intimated on 1st March. They

included a sum of £450 from the staff and workers, Nobel's Company, per Stevenston War Relief Fund, being a further sum towards equipment of the orthopædic section at Bellahouston Hospital; and a sum of £402, 14s. 2d., collected by Voluntary Aid Detachments of the County of the City of Glasgow Branch to provide an ambulance. The County of Renfrew European War Relief Committee contributed another monthly sum of £283, 4s. 6d., and the Scottish Football League contributed £150.

On 8th March was announced a contribution of £14,000, being a further payment from the Scottish Coalowners' and Coalworkers' Dennis Bayley Fund. A sum of £100 was received from the Coatbridge Branch to provide the sterilising equipment at the orthopædic section of Bellahouston Hospital.

A sum of £700 from the Provision Trade Association for the provision and maintenance of a motor ambulance was announced on 17th March, and also a sum of £689, 4s. 5d., being a further contribution from the Penang St. Andrew's Society to provide ten beds in the Scottish National Red Cross Hospital.

The Headquarters Organising Clothing Committee intimated that in the previous week 10,126 garments were received from work parties at the headquarters store at St. Andrew's Halls, Glasgow. During the same time 15,366 garments and 3,754 accessory comforts, making a total of 19,120 garments and articles, were despatched to twenty-two different hospitals—among these a very large consignment for the military hospitals of Belgium, which were in great need of help.

On 23rd March it was intimated by Lady Arthur and Mrs. Findlay-Hamilton, as joint organising conveners of the Ayrshire effort on behalf of the Branch, in closing the fund, that the total sum raised amounted to £11,232, 16s. 9d. The balance still in hand would be handed over by the county president, the Countess of Eglinton and Winton, to complete the gift from Ayrshire to the Scottish Branch of the British Red Cross Society.

At the close of the month the subscriptions announced included a further sum of £6,000 from the Scottish Coalowners' and Coalworkers' Dennis Bayley Fund, £773, 7s. from St. Andrew's Society of New York, and a further sum of £100 from St. Andrew's Society of the River Plate.

The Headquarters Organising Clothing Committee intimated that 73,310 garments and comforts were sent to hospitals, &c., at home and abroad during the month of March. This was the heaviest record of work since the war began for one month, and meant that the need for hospital clothing and accessory articles was greater than ever before.

During the month of March the Central Stores for Surgical Dressings of the Scottish Branch of the British Red Cross Society despatched 127,450 bandages, dressings, and splints, and 739 packets of cotton wool, lint, &c., to hospitals at home and abroad. During the same period there were received at the stores 51,126 articles from the War Hospital Supply Dépôt, 22 Burnbank Terrace, Glasgow; 44,770 articles from the War Hospital Supply Dépôt, 13 St. John's Road, Glasgow; 10,200 articles from the North-Eastern District Dépôt, Aberdeen; 9,103 articles from the Sphagnum Moss Dépôt, Renfrew Street, Glasgow; and a number of smaller consignments.

The Transport Committee of the Scottish Branch of the Red Cross Society, in a pamphlet giving the latest information with regard to their department, stated that during the past year their work had been extended considerably, and that the number of vehicles under their control had been largely increased. A number of the cars acquired by or presented to the Branch in the earlier stages of the war had required considerable overhaul, and it had become necessary to increase the strength of a number of the convoys, and in some instances to replace derelict cars. The wastage in cars had been very much less than was anticipated, and much credit was due to the officers and men in charge of the various convoys for the efficient manner in which the vehicles had been maintained. The Scottish Branch had provided 294 motor ambulance vehicles for work at the seat of war, and 95 vehicles belonging to the Branch were in use throughout Scotland. A summary of the reports showed that up to 31st December, 1916, the approximate mileage run by the cars was 1,872,953. The number of sitting patients carried was 471,302; lying patients, 229,449; officers and orderlies, 105,622—a total of 806,373.

NEW PREPARATIONS, &c.

From Messrs. Duncan, Flockhart & Co., Edinburgh.

Vaccines and Tuberculins.—We have received from Messrs. Duncan, Flockhart & Co. samples of the tuberculins and of some of the more recent vaccines which they issue, and which are prepared by the scientific staff of the research laboratory of the Royal College of Physicians of Edinburgh. Their source is a guarantee of their purity, and the accompanying pamphlet gives very clear indications of the principles which should guide their use in prophylaxis, diagnosis, and treatment. We may call particular attention to the typhoid tri-vaccine, now recommended by the R.A.M.C. for use in prophylactic inoculation against typhoid fever. Besides *B. typhosus* it contains also *B. paratyphosus* A. and B., and its use is thus protective both against typhoid fever and paratyphoid. Among others may be mentioned the vaccine for chronic nasal and bronchial catarrh, prepared from the *micrococcus catarrhalis*, and often yielding good results where that organism is at the root of the condition; and that prepared from the *streptococcus rheumaticus*.

From Messrs. Burroughs Wellcome & Co., London.

A New 'Tabloid' Medicine Pocket-Case.—No. 131 'Tabloid' Medicine Pocket-Case has been added to the comprehensive series of 'Tabloid' Equipments issued by Burroughs Wellcome & Co. It measures only 6 by $3\frac{1}{2}$ by $\frac{1}{16}$ inches, and contains seven tubes of 'Tabloid' and 'Soloid' medicaments, a selection of dressings, and other accessories. The portability and compactness, as well as the strong and excellent workmanship, which are constant characteristics of the equipments issued by Burroughs Wellcome & Co., betoken the suitability of the case as a part of a military outfit. The contents may be varied in accordance with individual requirements, and coverings in various grades and colours of leather and leatherette are obtainable.

REVIEWS.

Ligations and Amputations. By A. BROCA, Professeur d'Opérations et Appareils à la Faculté de Médecine de Paris. Translated by ERNEST WARD, M.A., M.D., F.R.C.S. Bristol: John Wright & Sons, Limited. 1917. (8s. 6d. net.)

THIS book has been simply translated without editing or footnotes; but the title has been altered from *Précis de Médecine Opératoire* to *Ligations and Amputations*, which, in the translator's opinion, more nearly describes its contents and scope. The author, in his preface, pays a handsome tribute to his old teacher, Farabeuf, and explains that the present little volume is intended for students, for whom Farabeuf's book is rather too long.

The volume contains close on 300 pages, of which 60 are occupied by the subject of ligations. The text is precise, practically nothing of importance being omitted, and the illustrations are very clear. The anatomical figures, also, are valuable as a "refresher" to the reader's knowledge of the situation and arrangement of the principal blood-vessels.

Amputations, the second and larger subject treated of, are prefixed by some chapters on general principles. These chapters are worthy of careful study. The details of the individual operations are set forth with precision, helped out by excellent illustrations.

There are, as the translator observes, differences in the teaching of the two countries, and these are noticeable when one comes to read the present volume. At the same time we think he has done wisely in not "editing" Dr. Broca's work. He has given us a good and readable translation, with which we have no fault to find. At the present time a very large number of the profession are engaged with the army, and in a surgical capacity. These will find Dr. Broca's book a great help, and we recommend it to their notice.

The publishers have issued it on a paper which, while thin, is of good quality, and carries both text and illustrations extremely well. Its size renders it suitable for carrying in the jacket pocket, and we cannot conceive of a better *vade-mecum* for the military surgeon who is, in many cases, unable to have with him a bulky library.

Twelve Lectures on the Modern Treatment of Gonorrhœa in the Male. By Dr. P. ASCH, Strassburg. Translated and Annotated by P. E. GARDNER, M.D. London: William Heinemann. 1916. (5s. net.)

THE German original of which the volume before us is a translation was reviewed in these pages some few months ago. It is sufficient, therefore, to say that the opinions then expressed are substantiated by a second perusal of the work, and to congratulate Dr. Gardner on the manner in which he has performed his task. His notes are useful and not burdensome, and his version, unlike those of many other American translators, reads like English. It may not be out of place to remark that some of the author's observations upon abnormal methods of coitus are a confirmation from the enemy's mouth of the apparently biased outcry of the lay press regarding the sexual degeneracy of Germany.

The Sexual Disabilities of Man. By ARTHUR COOPER. Third Edition. London: H. K. Lewis & Co., Limited. 1916. (6s. net.)

THE oral treatment in the classroom of sexual disability has been, for the most part, characterised by timidity and generality, and these have not been less marked since the invasion of the profession of medicine by women. Such an attitude on the part of professors has, it need scarcely be said, no basis of reason, yet it is persisted in. One of the consequences is the practical relegation of the subject, since it must be investigated

and taught, to special treatises. Of these Mr. Cooper's work is an excellent type, as we are able to testify after having read it from cover to cover.

In the two earlier issues the author confined his teachings to the subjects of sterility and impotence. In this third edition he brings out an equally good new section on the prevention of sexual disability.

From the nature of the subject the difficulties of applying tests and of conducting research will be apparent to all. Nevertheless Mr. Cooper has overcome these to a considerable extent by putting to the utmost use his chances of observation in both hospital and private practice. He has thus given us a book which for all ordinary purposes in connection with its subject will be found by practitioners of very great value.

Anatomy, Descriptive and Applied. By HENRY GRAY, F.R.S. Nineteenth Edition. Edited by ROBERT HOWDEN, M.A., D.Sc., M.B., C.M. London: Longmans, Green & Co. 1916. (32s. net.)

WE are impressed by the discovery that it is almost sixty years since Henry Gray launched the work on *Anatomy* which has pursued a career of unbroken success as a standard treatise through eighteen editions. The nineteenth is before us, and there is no need to forecast its reception. Gray's has become almost an essential part of the medical man's library.

Dr. Robert Howden is again the general editor, and he has been at great pains to carry out whatever improvements were possible on the previous issue. The scheme of the work is as before, but the text has been submitted to revision in detail. Twenty of the illustrations are new, while some sixty of the older ones have been replaced by improved figures, and the number in colour has been increased to 500.

The device adopted of using the new nomenclature with the older form bracketed will be greatly appreciated by those familiar with the latter only. After all, the old system must for many years be accepted from practitioners who are candidates for the higher examinations, while in the case of

students sitting the ordinary degree examinations there is no problem, since they will use the form in which they have been trained.

Applied Anatomy is in the capable hands of Dr. Jex Blake and Mr. Fedde Fedden, who treat of it from the medical and the surgical points of view respectively.

For those who wish a compact yet detailed text-book of anatomy which has the limitations of no school, Gray's is the inevitable choice.

Appleton's Medical Dictionary. Edited by S. M. JELLIFFE, M.D., and CAROLINE W. LATIMER, M.D. London and New York: D. Appleton & Co. -1916. (15s. net.)

THE appearance of a new medical dictionary, when there are already excellent medical dictionaries in existence, is justified if it possesses some outstanding quality—greater completeness, compactness, or learning—to distinguish it from its predecessors. If it is merely of equal and similar merit, it is a superfluous addition to an overloaded book-market. Although the present volume is well arranged, portable, and printed in a very legible type, it is not likely to displace its competitors. For English readers it suffers from the use of the American spelling, a small matter in many instances but not in all. Words beginning with the diphthong *æ*, for example, are given under the letter *e*, and similarly *œdema* is to be found not under *o* but under *e*. Derivations are occasionally faulty; hydatid is thus stated to be derived from "Gr., *ydatis*, a drop of water." Phonetic equivalents, too, are sometimes of doubtful value, that for Jaccoud's sign being given as *ghah-kooz*. Yet when allowance is made for these minor faults, the dictionary will be found to contain concise and accurate definitions of almost every term that is employed in medicine. The appendix which completes it gives directions for the analyses of body fluids, specimen diets, instructions for infant feeding, and for the certification of birth and death, a table of poisons and their antidotes, and a table of weights and measures.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

SURGERY.

The Indications for Cholecystectomy. By Fred B. Lund (*Surgery, Gynecology, and Obstetrics*, March, 1917).—An argument often adduced in favour of performing cholecystostomy instead of cholecystectomy is that the latter operation removes the channel of drainage which relieves infection of the ducts. If, however, the bile is sterile and the infection is situated in the bladder wall, the argument falls to the ground. Where jaundice is due to the pressure of a stone, or the swollen neck of the gall-bladder, upon the common duct, the whole condition clears up when stone and gall-bladder are both removed. Often a small stone impacted in the cystic duct can only be dealt with by cholecystectomy. Acute cholecystitis without stones may, but probably will not, be cured by drainage alone, and here cholecystectomy is indicated. Other conditions in which the removal operation is preferable are—chronic cholecystitis without stones, and acutely inflamed gall-bladders, particularly if gangrenous.

In cases where the common duct has to be incised, or where there is much manipulative trauma, the bladder may be saved lest cholecystenterostomy should become necessary. The gall-bladder should be only drained where there is acute cholecystitis, and the patient's condition or technical difficulty render removal unsafe. Cholecystectomy should not be performed in pancreatitis with jaundice. Either cholecystenterostomy or cholecystostomy is to be preferred.—CHARLES BENNETT.

The Relative Merits of Cholecystostomy and Cholecystectomy. By Charles H. Mayo (*Surgery, Gynecology, and Obstetrics*, March, 1917).—Cholecystostomy gives a high percentage of cures when disease of the gall-bladder is slight, stones are present, and gastric symptoms absent. It is also the treatment when there is associated pancreatitis, since the prolonged drainage thus provided is necessary. In old patients, and during pregnancy, the gall-bladder should be only drained. In cases where there is cystic gall-bladder with destroyed mucosa, in empyema, and in the well-known "strawberry" condition of the organ, the method of election is cholecystectomy. If cholecystitis severe enough to give rise to symptoms is present, the infection of the gall-bladder wall cannot be eradicated by measures short of removal. When

there is evidence of associated functional derangement of the stomach, the gall-bladder should be excised.—CHARLES BENNETT.

Cholecystostomy versus Cholecystectomy. By John B. Deaver (*Surgery, Gynecology, and Obstetrics*, March, 1917).—The author points out that cholecystectomy takes longer to perform, and that with it there are operation dangers not incurred when the simple drainage operation is done. Yet excision must be faced when called for. He inclines to the view that removal is the proper treatment when the gall-bladder is obviously diseased and presumably the primary and residual seat of biliary infection. This covers the vast majority of cases. But when the condition seems rather more cholangitic and intra-hepatic in nature, or when the major lesion is in the pancreas or common duct, he prefers to leave the gall-bladder and use it for external drainage by cholecystostomy, or internal by cholecystoduodenostomy.—CHARLES BENNETT.

Isolated Disease of the Scaphoid Bone of the Foot (Kohler's Disease). By W. B. Hetzel (*Amer. Journ. of Orth. Surgery*, March, 1917).—The author reports this case as an addition to the records of the disease. Kohler published the first three cases in 1908, and since then nine others have been put forward.

The patient was a boy of seven, of good family history, and in whom Wassermann and Von Pirquet reactions were negative. He had been limping for three months, without known injury, and complaining of pain in the left foot on weight-bearing. Examination showed redness and swelling over the inner side of the dorsum of the foot, and there was marked tenderness over the scaphoid. Temperature remained at 100° F. for a few days, but the pulse-rate was not increased. In skiagrams the scaphoid appeared smaller than normal, irregular in outline, increased in density, and with no distinction between cortex and spongy portion. Treatment by immobilisation in plaster of Paris, with the use of crutches, was adopted. After nearly four months weight-bearing was gradually resumed, and there was a clinical cure. Skiagrams after three months showed the scaphoid increased in size, and with density approaching normal.

The author concludes that Kohler's disease, of which the above may be taken as a typical example, is a clinical entity, and that it is probably of osteochondritic nature.—CHARLES BENNETT.

ANÆSTHETICS.

A Method of Anæsthetising Soldiers. By W. J. M'Cardie (*British Medical Journal*, 21st April, 1917).—Having at the 1st Southern General Hospital opportunities of anæsthetising many soldiers, Mr. M'Cardie found that they are mostly strong and fit men accustomed to tobacco, and consequently with irritable throats; nearly all have colds due to exposure; their nervous systems are on a much higher plane of tension than that of the normal individual during ordinary times, so that altogether as a type they are much more difficult

patients in whom to induce anæsthesia than are the general run of those met with in civil practice. The author began to use various mixtures of ether and chloroform in Hewitt's wide bore closed Clover's inhaler, and found that a mixture of sixteen parts of ether and one of chloroform was a safe means for the induction and often for the maintenance of anæsthesia. The respiration and circulation are slightly stimulated, and there is much less irritation of the respiratory mucous membranes than with ether alone; but if much coughing ensues an immediate change to chloroform by the open method is made. Contra-indications to the addition of the small amount of chloroform to the ether are found in cases where the fullest stimulation by ether is needed, as in patients in whom there is great shock, loss of blood, or toxæmia. All patients are given a preliminary injection of morphia $\frac{1}{8}$ gr. and atropine $\frac{1}{160}$ gr. half an hour before operation.—J. P. BOYD.

Books, Pamphlets, &c., Received.

The Organs of Internal Secretion, their Diseases and Therapeutic Application: A Book for General Practitioners, by Ivo Geikie Cobb, M.D., M.R.C.S. London: Baillière, Tindall & Cox. 1917. (5s. net.)

Clinical Bacteriology and Hæmatology for Practitioners, by W. D'Este Emery, M.D., B.Sc.Lond. Fifth edition. London: H. K. Lewis & Co., Limited. 1917. (9s. net.)

Notes on Early Portraits of John Banister, of William Harvey, and the Barber-Surgeons' Visceral Lecture in 1581, by D'Arcy Power, F.R.C.S. Reprinted from the Proceedings of the Royal Society of Medicine, 1912, Vol. VI. London: John Bale, Sons & Danielsson, Limited. 1912.

Some Notes on Edmund Harman, King's Barber, 1509 (?) to 1576, by D'Arcy Power, F.R.C.S. Reprinted from the Proceedings of the Royal Society of Medicine, 1916, Vol. IX. London: John Bale, Sons & Danielsson, Limited. 1916.

A Revised Chapter in the Life of Dr. William Harvey, 1636, by Lieutenant-Colonel D'Arcy Power, R.A.M.C. (T.), F.R.S. Eng. Reprinted from the Proceedings of the Royal Society of Medicine, 1916, Vol. X. London: John Bale, Sons & Danielsson, Limited. 1917.

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GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR
THE FOUR WEEKS ENDED 26TH MAY, 1917.

	WEEK ENDING			
	May 5.	May 12.	May 19.	May 26.
Mean temperature,	51·4°	42·9°	48·2°	55·4°
Mean range of temperature between highest and lowest,	17·8°	10·7°	9·6°	12·8°
Number of days on which rain fell,	1	4	5	3
Amount of rainfall, . ins.	0·01°	1·02°	1·19°	0·37°
Deaths (corrected),	399	339	393	358
Death-rates,	18·6	15·8	18·4	16·7
Zymotic death-rates,	3·6	3·5	3·8	3·2
Pulmonary death-rates,	4·6	3·5	3·8	3·6
DEATHS—				
Under 1 year,	62	65	91	65
60 years and upwards,	103	67	81	88
DEATHS FROM—				
Small-pox, . . . .	...	...	...	...
Measles,	33	41	42	35
Scarlet fever,	1	1	2	1
Diphtheria,	3	3	4	1
Whooping-cough,	38	36	33	33
Enteric fever, . . . .	..	...	...	...
Cerebro-spinal fever,	1	...	...	1
Diarrhoea (under 2 years of age),	...	6	4	5
Bronchitis, pneumonia, and pleurisy,	69	48	61	51
CASES REPORTED—				
Small-pox, . . . .	...	...	...	...
Cerebro-spinal meningitis,	3	2	2	2
Diphtheria and membranous croup,	20	18	20	15
Erysipelas,	15	8	9	15
Scarlet fever,	28	42	34	38
Typhus fever, . . . .	..	...	...	...
Enteric fever,	3	2	2	1
Phthisis,	66	52	68	51
Puerperal fever,	3	1	2	2
Measles,*	702	752	735	758

* Measles not notifiable.

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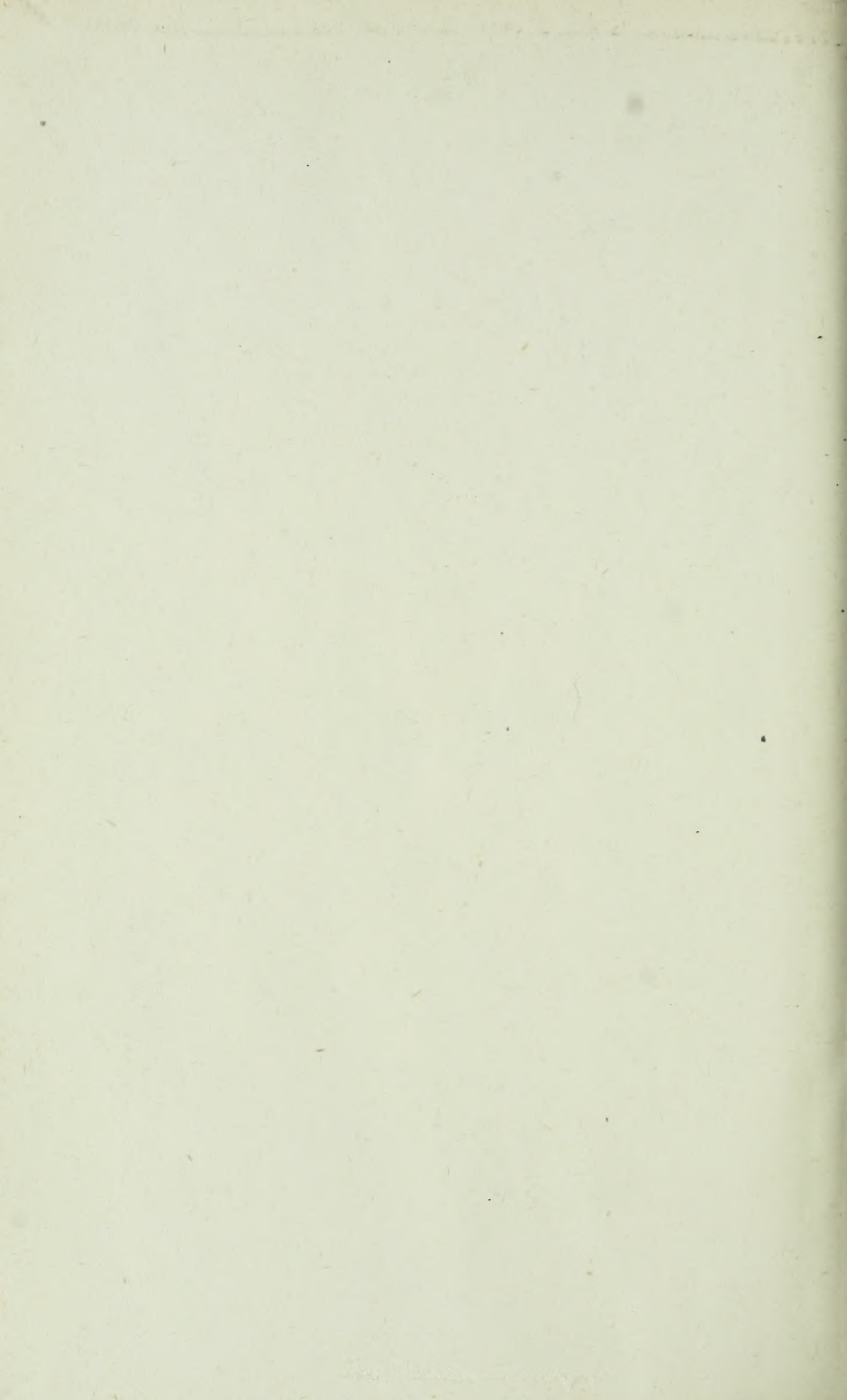
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